

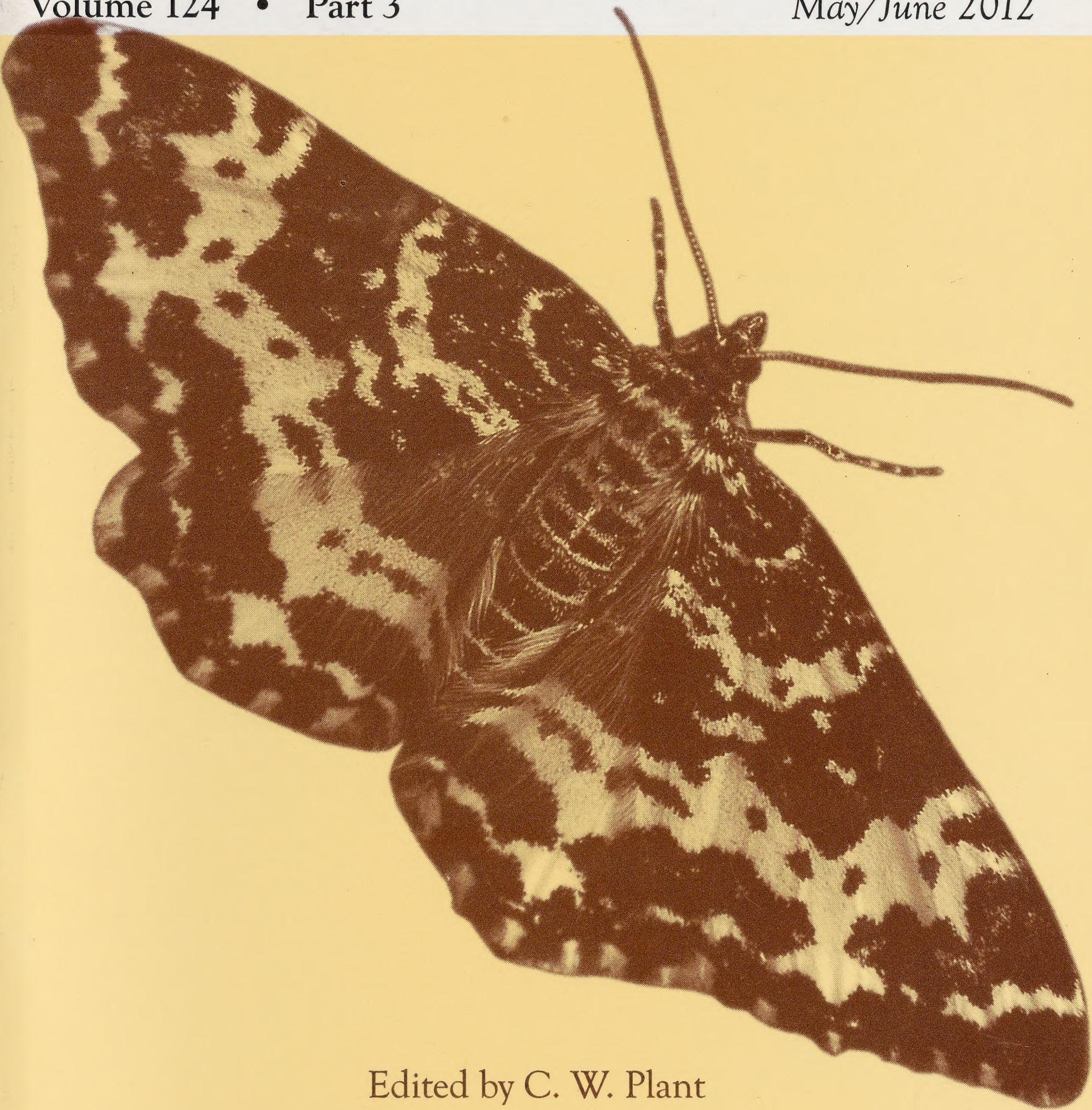
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and Journal of Variation

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Edited by C. W. Plant

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Please follow the format in this issue. The Editor will be pleased to assist in any way possible, especially if you are a first-time author. If in doubt – contact me! Ideally material will be compatible with Microsoft Word and will arrive via e-mail, but we will accept typescripts or *neatly* hand-written contributions for shorter Notes.

Notes are reviewed and accepted by the Editor and are especially welcomed. We aim to publish these within two issues of acceptance.

Full papers must include an Abstract and a maximum of ten Key Words and acceptance is subject to external peer-review; full papers may be returned for changes before final acceptance and we aim to publish these within three or four issues of original receipt.

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## THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 2009

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### Abstract

Formally accepted records of immigrant Lepidoptera occurring in the British Isles during the year 2009 are listed and discussed. For less frequently encountered species, full information is given in Annex 1, presented in vice-county order, the individual localities then listed alphabetically for each VC. For the more regular immigrant species, annual summaries and a selection of the more important records are presented in Annex 2.

### Introduction

Whilst the 2009 season was generally unremarkable in terms of periods of sustained insect immigration of a wide range of species, it was particularly noteworthy for two single species invasions that took place. The first involved a countrywide influx of *Vanessa cardui* (L.) that arrived in late May and produced huge numbers of progeny during the summer. The selection of counts and reports listed in this species' account give a snapshot of some of the numbers and general spectacles this invasion produced but a far more detailed analysis of this memorable event can be found in Fox (2010). The second influx involved an unprecedented arrival of *Itame brunneata* (Thunb.) during late May and June across much of southern and parts of central England, thought to be the result of a population explosion in parts of mainland Europe. This invasion is more thoroughly detailed in Higgott & Davey (2010), although even bigger influxes of this species have followed in the two subsequent seasons.

In association with the *V. cardui* invasion was a record (but much smaller!) influx of the gelechid moth *Syncopacma polychromella* (Rebel), whilst the first confirmed British record of the tortricid moth *Cydia inquinatana* (Hb.) was taken in the same light trap as an immigrant *I. brunneata* and may have been associated with the arrival of this species from the east.

Aside from these two significant events, immigration was, at best, intermittent during the summer/autumn periods. However, some excellent immigrant records were forthcoming during the season and the most significant of these were as follows: *Catoptria verellus* (Zinck.), two records each from VC's 10 & 15; *Herpetogramma licarsisalis* (Walk.), the eighth UK record during October; *Euzophera bigella* (Zell.), a probable immigrant example from VC13; *Stegania cararia* (Hb.), the first UK record in July; *Chiasmia aestimaria* (Hb.), the fifth UK record, all of these from VC15; *Crocallis dardoinaria* (Donzel), the second UK record from VC9; *Actinotia polyodon* (Clerck), the most northerly record of the species in the UK from VC61; *Cryphia raptricula* (D. & S.), the eighteenth UK



record from VC25; *Apamea lateritia* (Hufn.), the fifteenth UK record from VC112; *Spodoptera ciliatum* (Guen.), the seventeenth UK record from VC1; *Earias insulana* (Boisd.), the sixth UK record from VC32; *Chrysodeixis acuta* (Walk.), the nineteenth UK record; *Catocala electa* (View.), the tenth UK record from VC10; and the second UK record of *Aedia leucomelas* (L.) from VC19.

As well as the *S. cararia* record given above, there were five more additions to the British list in 2009: *Pryeria sinica* (Moore), *Tuta absoluta* (Meyr.), *Musotima nitidalis* (Walk.), *Menophra japygiaria* (Costa); and *Dinumma deponens* (Walk.). The details of these records are given in Annex 1 but in each case are likely to relate to the artificial importation/introduction of the species into Britain.

### Guidelines for contributors

To avoid unnecessary delays in publishing future reports, it would help greatly if contributors adhere to the following guidelines: data should include the vice-county, recorder, stage (if not an adult), number observed, and the date. For light-trap records list the date the trap was switched on, not the date it was inspected. This is a universally accepted convention to avoid the possible duplication of records.

There remains a noticeable shortage of records from more northern and inland sites submitted for these reports. Records of migrant species from such sites would be gratefully received for future reports, and the regional summaries & categories of listed records for Annex 2 species have been introduced to take account of records of this nature. County recorders not already submitting migrant data for these annual reports are keenly requested to do so, even if their respective counties are not favourably positioned to receive arrivals. Migrant records from such northern and inland sites are often more significant in showing the range and scale of immigrations of species routinely recorded from more southern, coastal locations. Mapmate has recently updated its migrant filter to facilitate the extraction and submission of appropriate data.

It should be noted that statistics relating to the total number and distribution of **all** records received/sourced of a majority of the nocturnal Annex 2 species are now given, so please continue to submit records of all these species. It must also be stressed that it has become impossible to monitor the growing number of e-mail/website migrant forums and the posting of records on such sites will not necessarily result in their inclusion in future reports. It is therefore essential that migrant records are submitted to the relevant county recorder, published within the entomological press, or sent directly to the report author.

Whilst able to source information published in the entomological press, the author is greatly reliant on county recorders to submit migrant records. However, despite direct approaches being made to this end, a number of county recorders have failed to produce any information for inclusion in the following report, therefore preventing a completely comprehensive summary to be produced.



Whilst additional, late records can be published in future appendices, it is always preferable that they are included within the report relating to the year of occurrence. If readers have recorded (or are aware of) significant migrant records from 2009 that are not in the current report but have been submitted to the relevant county recorder, it can be assumed these have not been forwarded to the author. The author would be pleased to receive such records, whilst recorders should encourage their respective county recorders to make migrant records available for inclusion in future reports.

County recorders, or those submitting large volumes of data are asked to sort their data by vice-county, species name, and then by date order. Contributions are particularly welcome in electronic format (pref. older versions of MS Excel) to the author at the e-mail address given at the start of the report. Paper copies may also be submitted to the postal address over the page. Should readers be aware of any significant omissions or errors in this or earlier reports, these would be welcomed for inclusion in future appendices. Contributors are also requested to provide the middle initial(s) of recorders wherever possible to assist with the accreditation of records.

Recent reports have been extended to include the more interesting records of adventives as these often help to establish the origin of other records or colonisations of the respective or associated species. Extralimital records of resident species that may be the result of immigration or internal vagrancy are also included in reports. Records of this nature are therefore also welcome for inclusion in future reports.

The following abbreviations have been adopted since the 2002 report. These remain unaltered and exclude any variation in status found on the Channel Islands (VC113). However the categorisation of individual species is reviewed annually in the light of any recent/ongoing changes in status. A brief introductory statement has also been added to the accounts for a number of listed resident species in order to clarify the type of record that is included in these reports.

### **Abbreviations**

**[I]** - Primary immigrant or the direct progeny of a primary immigrant. Where this is the only category given, believed to relate to a species that is unable to maintain a viable, self-sustaining resident population through a typical British winter.

**[In]** – Introduction or importation. A species artificially introduced into Britain by man. Can include synanthropic species that are only able to sustain breeding populations in Britain under conditions that do not occur naturally.

**[MC]** – Migrant Colonist. An immigrant species that has established extant, short-term breeding populations in Britain, but these believed to have been present for fewer than ten consecutive years.

**[R]** – Resident. A species with an established breeding population in Britain, this having been present for a minimum of ten successive years.



**[FR]** – Former Resident. A species that was formerly an established resident but has no known resident populations in Britain at the time of writing.

**[V]** – Vagrant/wanderer. A species recorded well away from its known British breeding range, but the record most likely to have been the result of internal, domestic dispersal.

Channel Islands (VC113) records are no longer included in the main species accounts due to their southerly position, locating them outside the biogeographical area of Great Britain and Ireland. This often leads to differing statuses of listed species within VC113 and occurrence patterns of immigrant species that are not comparable with records in Great Britain and Ireland. However, records of recent colonists and rare immigrants in VC113 can be precursors of arrivals in Britain, so significant VC113 records are given in Annex 3.

## ANNEX 1: RECORDS OF SCARCER SPECIES IN 2009

### ZYGAENIDAE

#### 0172a *Pryeria sinica* (Moore) *Euonymus* Leaf Notcher [In]

BERKSHIRE [22] Upper Bucklebury, 8.10, new to Britain (J. & K. Dobbins per MCH).

### YPONOMEUTIDAE

#### 0424 *Yponomeuta evonymella* (L.) [R][I/V]

Significant coastal influxes in southern Britain that may relate to immigrants.

W. SUSSEX [13] Pagham, 2.7 (235) (IL).

#### 0428 *Yponomeuta cagnagella* (Hb.) [R][V/I]

Coastal records of possible immigrant examples.

W. CORNWALL [1] The Lizard, 28.6 (10) (Tunmore, 2010).

#### 0449c *Prays oleae* Bernard [In]

SURREY [17] Addlestone, 22.1, larval mines on olive in a garden centre (adults bred), first VC record (ARM per JP, in Langmaid & Young, 2010).

#### 0473 *Acrolepiopsis assectella* (Zell.) [R][I/V]

Coastal/extralimital records of possible immigrant examples.

E. KENT [15] Ramsgate, 13.8 (Solly *et al.*, 2010). E. SUFFOLK [25] Bawdsey, 28.10 (MJD).

### ETHMIIDAE

#### 0718 *Ethmia dodecea* (Haw.) [R][I/V]

Coastal/extralimital records of possible immigrant examples.

E. KENT [15] Dymchurch, 25.6 (JEO); Kingsdown, 5.7 (Jarman & Morris, 2010).

#### 0719 *Ethmia quadrillella* (Goeze) [R][I][V]

Coastal records away from known populations.

E. KENT [15] Kingsdown, 9.8 (Jarman & Morris, 2010); Pegwell, 11.8 (Solly *et al.*, 2010). E. SUFFOLK [25] Bawdsey, 6.8, 7.8 (Deans, 2010).

### GELECHIIDAE

#### 0825a *Tuta absoluta* (Meyr.) [In]

E. GLOUCESTERSHIRE [33] Cheltenham, 20.12, larval mine in tomato imported from Spain (adult bred) (R. Homan, in Langmaid & Young, 2010). YORKSHIRE [61/63] 'Recorded from seven fruit packing stations and two tomato production sites' at undisclosed localities within these VC's (FERA per HEB, in Langmaid & Young, 2010). New to Britain.



- 0850** *Syncopacma polychromella* (Rebel) [I][In]  
DORSET [9] Canford, late May (J. Elborn, in Davey, 2010). S. HAMPSHIRE [11] Burton, 24.5 (J. Southworth); Sandy Point, Hayling Island, 24.5 (Phillips & Johnson, 2010); first VC records.  
WATERFORD [H6] Tramore, 30.5, new to Ireland (Bryant & Walsh, 2010).

- 0857** *Anarsia lineatella* (Zell.) [I][In]  
W. KENT [16] Northward Hill, 8.7, first VC record (AMD, in Langmaid & Young, 2010).  
MIDDLESEX [21] Barnet, 30.6 (RT per CWP).

#### TORTRICIDAE

- 0955** *Eupoecilia ambiguella* (Hb.) [R][V/I]  
Coastal/extralimital records of possible immigrant examples.  
S.E. YORKSHIRE [61] Spurn, 6.8, 13.8 (Spence, 2010).

- 1070** *Olethreutes mygindiana* (D. & S.) [R]  
[A record of a possible immigrant example of this northern species from Blean Woods [15] on 31.5 (TR, AGJB), published in Higgott & Davey (2010) and elsewhere, has been shown to be erroneous and refer to an example of the common resident *Celypha lacunana* (D. & S.) (Higgott, 2010).]

- 1263** *Cydia inquinatana* (Hb.) [I?]  
E. SUFFOLK [25] Minsmere, 13.6, first confirmed British record (Harvey & Higgott, 2010).

- 1262** *Cydia amplana* (Hb.) [I]  
ISLE OF WIGHT [10] Totland, 3.8 (Knill-Jones, 2010). S. HAMPSHIRE [11] Ashurst, 13.9 (per M. Wall); Holbury, 11.8, 18.8 (per M. Wall). E. KENT [15] Kingsgate, 26.8 (Solly *et al.*, 2010). E. SUFFOLK [25] Ipswich, 6.8 (NS).

#### PYRALIDAE

- 1291** *Haimbachia cicatricella* (Hb.) [I][MC?]  
E. KENT [15] Greatstone, 5.7 (BBa).

- 1314** *Catoptria margaritella* (D. & S.) [R][I/V]  
Extralimital records of possible immigrant examples.  
E. KENT [15] Kingsgate, 26.6 (Solly *et al.*, 2010).

- 1317** *Catoptria verellus* (Zinck.) [I]  
ISLE OF WIGHT [10] Bonchurch, 31.5 (JH); Totland, 30.6 (SAK-J). E. KENT [15] Pegwell, 29.6 (FS); Westgate, 26.6 (TH).

- 1322** *Pediasia fascelinella* (Hb.) [R][I/V]  
Records of probable immigrant examples away from VC's 25 & 27.  
E. KENT [15] New Romney, 9.8 (AMT per SPC).

- 1355a** *Musotima nitidalis* (Walk.) [In]  
S. HAMPSHIRE [11] Merritown Heath, Hurn, 11.8, new to Britain; an Australasian species (DE, MJ).

- 1359** *Cynaeda dentalis* (D. & S.) [R][V/I]  
Records away from the known breeding range in coastal southern England, likely to relate to wandering individuals.  
W. CORNWALL [1] IOS: Longstone, St Mary's, 4.7, first Scillies record (Scott, 2010).

- 1360** *Hellula undalis* (Fabr.) [I]  
W. SUSSEX [14] Church Norton, 23.10 (BFS).

- 1368** *Loxostege sticticalis* (L.) [I][FR]  
DORSET [9] Tolpuddle, 23.7 (JF, in Davey, 2010). W. SUSSEX [13] Ferring, 23.8 (THF per CRP).  
E. KENT [15] Dymchurch, 14.7, 25.8, 18.9 [not 23.8 as given in Clancy, 2010] (JEO); Ruckinge, 14.5 (BBo).

- 1370** *Sitochroa palealis* (D. & S.) [I/V][R]  
Coastal/extralimital records that may relate to immigrant examples.  
DORSET [9] West Bexington, 9.8 (MJS). E. KENT [15] Dymchurch, 24.7 (JEO). E. SUFFOLK [25] Bawdsey, 18.7, 25.7 (MJD).



**1375 *Ostrinia nubilalis* (Hb.) [R][I][V]**

An established resident in south-east England, recently extending its range westward and northward, and consequently records have not been included in the current report from the southern and eastern seaboard counties between VC's 9 & 27, and inland to VC's 12, 16 & 17. The following records are probably the result of internal range expansion, although fresh immigration from the continent is a possibility, particularly for the more coastal records.

W. CORNWALL [1] Cury, 25.6 (FTJ); The Lizard, June 28-30 (2) (Tunmore, 2010). E. CORNWALL [2] Menheniot, 4.7 (AECA per LACT). S.E. YORKSHIRE [61] Easington, 3.7 (MFS per BRS); Kilnsea, 28.6, 2.7, 3.7 (BRS, PAC per CHF).

**1389 *Udea fulvalis* (Hb.) [I/V][R]**

Records outside VC's 9, 10 & 11.

W. SUSSEX [13] Ferring, 28.7, first VC record (THF per CRP).

**1400 *Antigastra catalaunalis* (Dup.) [I]**

DORSET [9] Durlston, 10.10 (MJD *et al.*).

**1403a *Duponchella fovealis* (Zell.) [I][In]**

W. CORNWALL [1] IOS: Longstone, St Mary's, 27.9, 20.10, 24.10 (indoors having emerged from house-plant), first VC records (Scott, 2010). DORSET [9] Wimborne, 2.9, at light (R. Steedman, in Davey, 2010). S. HAMPSHIRE [11] Brockenhurst, 1.7 (RBW). HERTFORDSHIRE [20] Bishops Stortford, 8.9, at light (TJL per CWP). MIDDLESEX [21] Barnet, 15.9, at light (RT per CWP); Hornsey, 12.8, at light (MA per CWP). MID-W. YORKSHIRE [64] Menston, 7.2, first VC record (per HEB, in Langmaid & Young, 2010). S. NORTHUMBERLAND [67] Fenham, 12.10, first VC record (per TJT, in Langmaid & Young, 2010).

**1404 *Spoladea recurvalis* (Fabr.) [I]**

W. CORNWALL [1] Trewellard, 27.10 (J. Foster). DERBYSHIRE [57] Foremark Reservoir, 25.10 (D. Budworth). AYRSHIRE [75] Minishant, 30.10, new to Scotland (Smith, 2010).

**1406a *Herpetogramma licarsisalis* (Walk.) [I]**

ISLE OF WIGHT [10] Totland, 28.10 (SAK-J).

**1408 *Palpita vitrealis* (Rossi) [I]**

Total no. reported: 17

By vice-county: 1 (5); 2 (1); 3 (1); 9 (7); 10 (1); 15 (2).

W. CORNWALL [1] Buryas Bridge, 27.10 (LO); Cury Cross Lanes, 28.10 (Tunmore, 2010); IOS: Longstone, St Mary's, 22.10, 30.10 (Scott, 2009a); IOS: St Agnes, 10.10 (Scott, 2010). E. CORNWALL [2] Marsland, 27.10 (SO). S. DEVON [3] Uplyme, 23.10 (AK). DORSET [9] Broadwey, 27.10, 31.10 (PH); Durlston, 28.10 (2) (BFS); Portland Bird Observatory, July (1), October (1) (Cade, 2010); West Bexington, 2.11 (RE). ISLE OF WIGHT [10] Bonchurch, 22.7 (JH). E. KENT [15] Pegwell, 28.10 (FS per IDF); Sissinghurst, 28.10 (SJB).

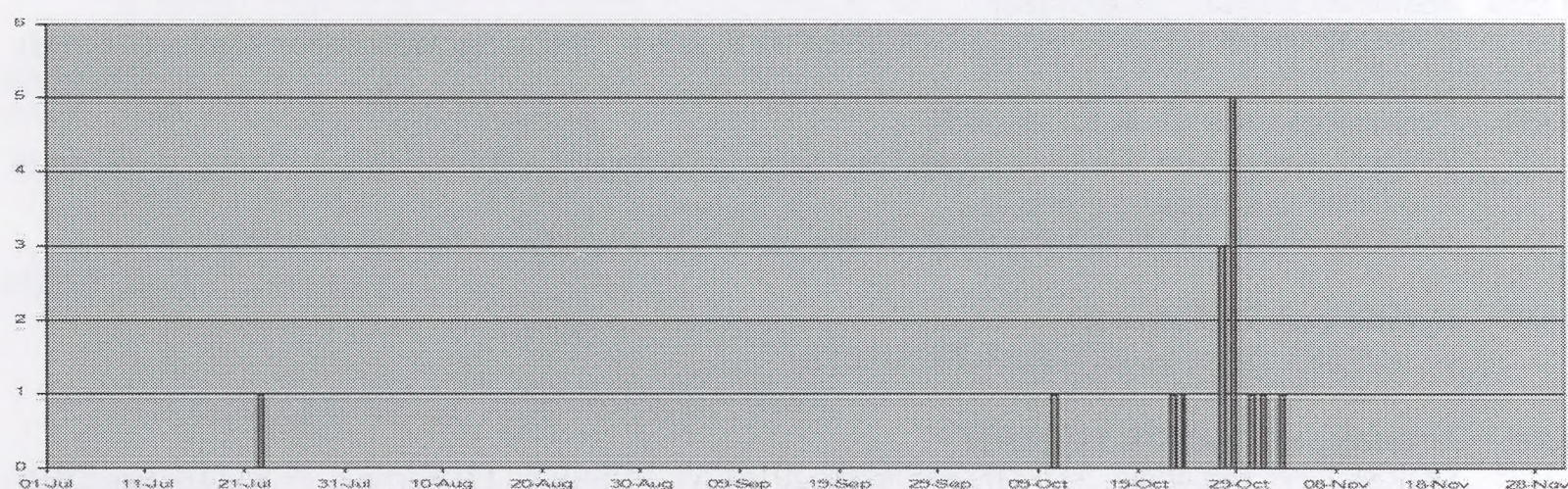


Figure 1. Occurrence times of *Palpita vitrealis* during 2009 (dated records).

**1409a *Cydalima perspectalis* (Walk.) [In]**

E. KENT [15] Biddenden, 21.9 (SJB per SPC). SURREY [17] No date or locality available, larvae found in a plant nursery (per FERA). S. ESSEX [18] Leigh-on-sea, 18.9, first VC record (GB). See also Appendix 2.



- 1410** *Agrotera nemoralis* (Scop.) [R][V/I]  
Extralimital records of possible immigrants.  
E. CORNWALL [2] Kilminorth Wood, 1.7, first VC record (PHB per LACT).
- 1430** *Paralipsa gularis* (Zell.) [In]  
W. SUSSEX [13] Pagham, 31.7 (IL).
- 1435** *Conobathra tumidana* (D. & S.) [I]  
E. KENT [15] Dymchurch, 31.7 (JEO); Lydd-on-sea, 5.8 (DB); New Romney, 4.8 (AMT per SPC); St Margaret's at Cliffe, 4.8 (Jarman & Morris, 2010). W. KENT [16] Orpington, 30.6 (PAS per IDF). E. SUFFOLK [25] Bawdsey, 12.8 (Deans, 2010).
- 1441** *Oncocera semirubella* (Scop.) [R][V/I]  
Coastal/extralimital records of probable immigrant/vagrant examples.  
E. SUFFOLK [25] Bawdsey, 12.7 (Deans, 2010).
- 1449** *Elegia similella* (Zinck.) [R][I/V]  
Coastal records away from known populations that may relate to immigrants.  
S. DEVON [3] Uplyme, 21.6 (AK).
- 1451a** *Etiella zinckenella* (Treits.) [I][In]  
LEICESTERSHIRE [55] Leicester, 13.7, first VC record (AJM).
- 1454** *Dioryctria abietella* (D. & S.) [R][I][V]  
Coastal records away from suitable breeding habitat that may relate to immigrants.  
E. SUFFOLK [25] Reydon, 7.8 (AC). S.E. YORKSHIRE [61] Spurn, 3.7 (Spence, 2010).
- 1454b** *Dioryctria sylvestrella* (Ratz.) [R][I][V]  
Now breeding locally in southern and south-east England, the following coastal or extralimital records may relate to fresh immigration or internal vagrancy.  
E. KENT [15] Greatstone, 6.8 (BBa); St Margaret's at Cliffe, 8.8, 12.8 (Jarman & Morris, 2010). E. SUFFOLK [25] Bawdsey, 18.7 - 11.8 (7) (Deans, 2010).
- 1461** *Assara terebrella* (Zinck.) [R][I/V]  
Coastal records away from habitat that may relate to immigrant examples.  
DORSET [9] Portland Bird Observatory, 22.6 (Cade, 2010). E. KENT [15] Dymchurch, 1.8 (JEO). E. SUFFOLK [25] Bawdsey, 20.5 (Deans, 2010).
- 1467** *Ancylosis oblitella* (Dup.) [R][I/V]  
Extralimital/coastal records with a potentially immigrant origin.  
N. HAMPSHIRE [12] Pamber Forest, 13.7 (DGG). E. KENT [15] Dymchurch, 25.8 (JEO). E. SUFFOLK [25] Bawdsey, 16.8, 12.9 (MJD).
- 1472** *Euzophera bigella* (Zell.) [In][I]  
W. SUSSEX [13] Walberton, 22.9 (JTR per CRP).
- 1475** *Ephestia kuehniella* (Zell.) [In][I]  
HUNTINGDONSHIRE [31] Elton, 10.1, first VC record (per BD, in Langmaid & Young, 2010).
- 1479** *Plodia interpunctella* (Hb.) [In]  
MORAYSHIRE [95] Boat of Garten, 4.1, first VC record (per MRY, in Langmaid & Young, 2010).

## PTEROPHORIDAE

- 1496** *Cnaemidophorus rhododactyla* (D. & S.) [R][I/V]  
Coastal/extralimital records that may relate to immigrants.  
ISLE OF WIGHT [10] Bonchurch, 16.7, first VC record (Knill-Jones, 2010).

## PAPILIONIDAE

- 1539** *Papilio machaon* (L.) Swallowtail [R][I][In?]  
The following records are all likely to relate to continental race *gorganus* (Fruhs.).  
E. SUSSEX [14] Robertsbridge, 22.8 (Bogue, 2009), 27.8 (J. Palfrey per CRP).



## PIERIDAE

1543 *Colias hyale/alfacariensis* Pale/Berger's Clouded Yellow [I]

/44 ISLE OF WIGHT [10] Ventnor, 14.10 (P. Cramp per SAK-J).

1549 *Pieris brassicae* (L.) Large White [R][I]

High coastal counts or light-trap records potentially relating to primary migrants.

W. CORNWALL [1] Church Cove, Lizard, 12.8 (140) (MT). S.E. YORKSHIRE [61] Spurn, 8.8 (c.7000 flying south) (Spence, 2010).

## LYCAENIDAE

1570 *Everes argiades* (Pallas) Short-tailed Blue [I][In]

DORSET [9] Broadcroft Quarry, Portland, 5.8 (Cade, 2010).

## NYMPHALIDAE

1594 *Nymphalis polychloros* (L.) Large Tortoiseshell [I][In?][FR][MC?]

ISLE OF WIGHT [10] Blackwater, 12.7 (Knill-Jones, 2010); Whippingham, 19.3, 20.3, 30.3 (2) (Knill-Jones, 2010). E. SUSSEX [14] East Dean, 15.5 (D. Jode per CRP).

1603 *Issoria lathonia* (L.) Queen of Spain Fritillary [I][MC?][In?]

W. SUSSEX [13] Brandy Hole Copse, Chichester, 14.7, 22.9 (3+), 25.9 (5+), 4.10 (5), 8.10 (5), 10.10 (2), 12.10 (2), 15.10, 1.11; all these records believed to be the result of local breeding (Pratt & Hulme, 2010). SURREY [17] Holmbury St Mary, 11.8 (A. Waters).

[A probable *I. lathonia* flew south at Gibraltar Point [54] on 14.9 (per B. Hedley).]

## DANAIDAE

1630 *Danaus plexippus* (L.) Monarch [I][In]

W. CORNWALL [1] IOS: Lower Moors, St Mary's, 24.10 (Scott, 2010); IOS: St Agnes, 10.10 (2, with one still present on 11.10) (Scott, 2010). ISLE OF WIGHT [10] Carisbrooke, 29.9 (Knill-Jones, 2010). E. KENT [15] Bockhill, 9.10 (Jarman & Morris, 2010).

1630a *Danaus chrysippus* (L.) Plain Tiger [In?]

ISLE OF WIGHT [10] Newton NNR, 1.6 (Knill-Jones, 2010).

## SATURNIIDAE

1643a *Saturnia pyri* (D. & S.) Great Peacock Moth [In]

S. HAMPSHIRE [11] Stubbington, 6.5 (det. M. Gwilliam per M. Wall).

## DREPANIDAE

1649 *Drepana curvatula* (Borkh.) Dusky Hook-tip [I]

W. SUSSEX [13] Haywards Heath, 24.8 (PL). E. KENT [15] Folkestone, 31.7 (TR); Hythe, 24.8 (JK); Lydd-on-sea, 5.8 (B. Dinsley). E. SUFFOLK [25] Bawdsey, 2.8, first VC record (Deans, 2010).

## GEOMETRIDAE

1664 *Aplasta ononaria* (Fuessl.) Rest Harrow [R][I][V]

Records away from known populations in VC15.

E. KENT [15] Dungeness, 9.8 (DW). W. KENT [16] Grain, 19.8 (AGJB per IDF). N. ESSEX [19] St Osyth, 19.8 (CA). E. SUFFOLK [25] Bawdsey, 4.8 (Deans, 2010); Landguard, 7.8 (NO).

1672 *Thalera fimbrialis* (Scop.) Sussex Emerald [R][I][V][MC]

Records away from the known population in VC15.

E. KENT [15] Kingsdown, 2.7, 13.7 (NJ).

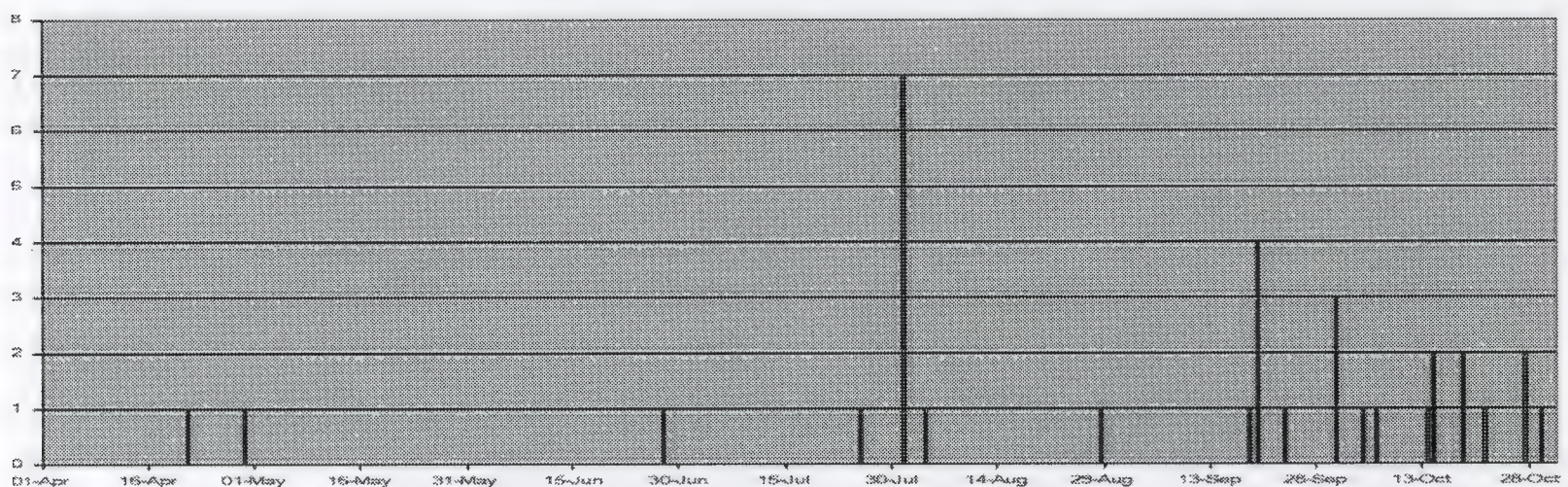
1678 *Cyclophora puppillaria* (Hb.) Blair's Mocha [I][MC]

Total no. reported: 42

By vice-county: 1 (2); 10 (7); 11 (10); 13 (19); 15 (4).

W. CORNWALL [1] IOS: Longstone, St Mary's, 14.10, 18.10 (Scott, 2010). ISLE OF WIGHT [10] Bonchurch, 21.4, 29.4, 18.10 (JH); Freshwater, 13.10, 14.10, 21.10 (D. Cooke), 27.10 (DBW per SAK-J). S. HAMPSHIRE [11] Hayling Island, 23.7 – 27.10 (8) (per T. Norriss); Southsea, 8.8 (JRL); Stubbington, 29.10 (D. Houghton). W. SUSSEX [13] Ferring, 13.5 – 30.10 (88), a breeding population (THF), inc. 27.6, 25.7, 31.7 (7), 3.8 (THF per CRP); West Wittering, 18.9, 19.9 (4), 23.9, 30.9 (3) (DL per CRP). E. KENT [15] Biddenden, 27.10 (SJB); Dymchurch, 28.8 (JEO); Greatstone, 4.10 (BBa); Pegwell, 6.10 (Solly *et al.*, 2010).





**Figure 2.** Occurrence times of *Cyclophora puppillaria* during 2009 (dated records).

**1678a** *Cyclophora ruficiliaria* (H.-S.) Jersey Mocha [I][MC]

E. KENT [15] Densole, 27.8 (TR).

**1684** *Scopula nigropunctata* (Hufn.) Sub-angled Wave [R][I][V]

Records away from known populations in VC15 that may relate to immigrants.

E. KENT [15] Dymchurch, 14.7 (JEO).

**1688** *Scopula rubiginata* (Hufn.) Tawny Wave [R][I][V]

Records away from known breeding colonies of this species in VC25. Coastal records from VC25 are included but may be associated with resident populations.

ISLE OF WIGHT [10] Totland, 4.8, first VC record (Knill-Jones, 2010). E. KENT [15] Pegwell Bay, 10.8 (TR).

**1696** *Idaea ochrata* (Scop.) Bright Wave [R][I/V]

Records away from the known populations in VC15.

DORSET [9] Beaminster, 1.7 (SP, in Davey, 2010).

**1714** *Idaea degeneraria* (Hb.) Portland Ribbon Wave [R][I/V]

Coastal records away from VC9, or autumn records, that may relate to immigrants, vagrants or undiscovered colonies.

W. CORNWALL [1] Budock Water, 3.6 (Davis, 2010); Maenporth, 29.6, 7.9 (Davis, 2010). S. DEVON [3] Uplyme, 22.9 (AK). S. HAMPSHIRE [11] Highcliffe, 1.6 – 23.9 (4) (per T. Norriss); Titchfield, 31.7 (per T. Norriss).

**1888b** *Stegania cararia* (Hb.) Ringed Border [I]

S. SOMERSET [5] Merriot, Crewkerne, 1.7, new to Britain (RC).

**1894** *Chiasmia clathrata* (L.) Latticed Heath [R][I/V]

Coastal records believed to relate immigration.

S. DEVON [3] Uplyme, 19.8, 23.8 (AK). DORSET [9] Portland, 4-26.8 (21) (Cade, 2010); Walditch, 23.8 (Parsons, 2010); West Bexington, 23.8 (16), 24.8 (5), 26.8 (4), 28.8 (Eden, 2010). ISLE OF WIGHT [10] Totland, 21.8 (SAK-J). W. SUSSEX [13] Ferring, 23.8 (THF). E. SUFFOLK [25] Bawdsey, 11.8 (4) (MJD).

**1894a** *Chiasmia aestimaria* (Hb.) Tamarisk Peacock [I]

E. KENT [15] St Margaret's-at-Cliffe, 7.9 (A.J. Morris per NJ).

**1896** *Itame brunneata* (Thunb.) Rannoch Looper [R][I]

Extralimital records likely to relate to immigrants.

**Total no. reported: 158**

**By vice-county:** 1 (5); 5 (2); 7 (1); 9 (4); 11 (4); 12 (2); 13 (2); 14 (12); 15 (77); 16 (4); 17 (3); 18 (3); 19 (3); 20 (2); 22 (5); 25 (20); 26 (1); 28 (2); 30 (1); 34 (1); 36 (1); 38 (2); 40 (1).

W. CORNWALL [1] Budock Water, 3.6 (Davis, 2010); Cury, 1.6 (FTJ); IOS: Longstone, St Mary's, 3.6 (Scott, 2010); Maenporth, 9.6 (Davis, 2010); Sennen, 2.6 (ME); the first VC records. S. SOMERSET [5] Taunton, 3.6 (M. Barry); Whitefield, 5.6 (PT). N. WILTSHIRE (7) Swindon, 26.6 (MST). DORSET [9] Portland Bird Observatory, 31.5 [not 1.6 as given in Cade, 2010] (MC per BFS); Shaggs,



3.6 (LHW); Shapwick, 28.6 (Davey, 2010); Tolpuddle, 30.6 (JF). S. HAMPSHIRE [11] Cadnam, 5.6 (M. Pugh); Highcliffe, 30.5, 27.6 (R, Chapman); Wickham, 1.6 (J. Shillitoe). N. HAMPSHIRE [12] Alton, 31.5 (NDP); Cholderton, 3.6 (HE). W. SUSSEX [13] Shoreham, 30.5 (P. Green); Walberton, 2.6 (JTR). E. SUSSEX [14] Beckley, 25.6 (DNB); Bexhill, 30.5 (JS); Etchingham, 31.5, 1.6, 2.6 (CM); Friston, 3.6, 25.6 (MB); Icklesham, 31.5, 25.6 (Hunter, 2010); Netherfield, 2.6 (SW); Peasmarsh, 3.6 (MFB); Petley Wood, 28.6 (SW). E. KENT [15] Ashford, 25.6 (DCG); East Blean Wood, 12.6 (2), 13.6 (2), 27.6 (2) (AGJB, JHC); Bockhill, 13.6 (Jarman & Morris, 2010); Canterbury, 2.7 (JSR); Covert Wood, 15.6 (AGJB); Denstead Wood, 31.5 (6), 11.6 (AGJB); Dymchurch, 31.5 (JEO); Grain, 27.6 (2) (AGJB); Greatstone, 31.5 (BBa); Kingsdown, 9.6 (5), 13.6, 30.6 (Jarman & Morris, 2010); Kingsgate, 4.6, 9.6 (3), 10.6 (5), 11.6, 12.6 (2), 27.6 (Solly *et al.*, 2010); New Romney, 2.6, 3.6 (KR); Pegwell, 30.5, 31.5 (2), 1.6, 10.6 (4), 13.6, 29.6 (Solly *et al.*, 2010); Ramsgate, 29.5, 30.5 (2), 10.6, 26.6 (Solly *et al.*, 2010); Ruckinge, 26.6 (BBo); St Margaret's at Cliffe, 9.6, 10.6, 26.6 (TM per BFS); Sandwich, 9.6 (7), 10.6 (2), 11.6, 12.6, 30.6 (IH); Sholden, 31.5 (L. Hirst). W. KENT [16] Grain, 27.6 (2) (AGJB per IDF); Green Street Green, 30.5 (PS); Shorne, 26.6 (DC per IDF). SURREY [17] Buckland, 30.5 (CH); Frimley, 31.5 (RJR); Ashted, 1.6 (JK). S. ESSEX [18] Maldon, 30.5, 16.6, 25.6 (RN, S. Wood). N. ESSEX [19] Great Clacton, 12.6 (G. Swayne); Great Totham, 31.5 (P. Darn); Old Hall Marshes, 26.6 (A. Cook). HERTFORDSHIRE [20] Hertford, 25.6 (AW per CWP); Sawbridgeworth Marsh, 31.5 (TG). BERKSHIRE [22] Abingdon, 31.5 (per BFS); Maidenhead, 27.6 (M. Finch per BFS); Windsor Great Park 1.6 (2) (D. White, LJF per BFS); Wokingham, 31.5 (per BFS). E. SUFFOLK [25] Bawdsey, 9.6, 12.6 (2) (Deans, 2010); Blythburgh, 9.6, 10.6 (DEW); Bradwell, 11.6 (KK); Dunwich Heath, 9.6 (2) (Moore & Deans, 2010); Eye, 26.6 (PK); Ipswich, 30.5 (NS); Minsmere, 9.6 (3), 13.6 (4), 15.6 (RMH); Orfordness, 12.6 (MCM); Rushmere St Andrew, 12.6 (JBH). W. SUFFOLK [26] Lakenheath, 12.6 (MJD). W. NORFOLK [28] Scolt Head NNR, 13.6 (N. Lawton); Watton, 12.6 (C. Pye). W. GLOUCESTERSHIRE [34] Horsley, 2.6 (P. Cranswick). BEDFORDSHIRE [30] Eaton Ford, 31.5 (AAL). HEREFORDSHIRE [36] Whitchurch, 1.6 (R. Hemming). WARWICKSHIRE [38] Temple Grafton, 25.6 (AFG); Waverley Wood, 25.6 (AP, VW), first VC records. SHROPSHIRE [40] Wyre Forest, 27.6 (JC).

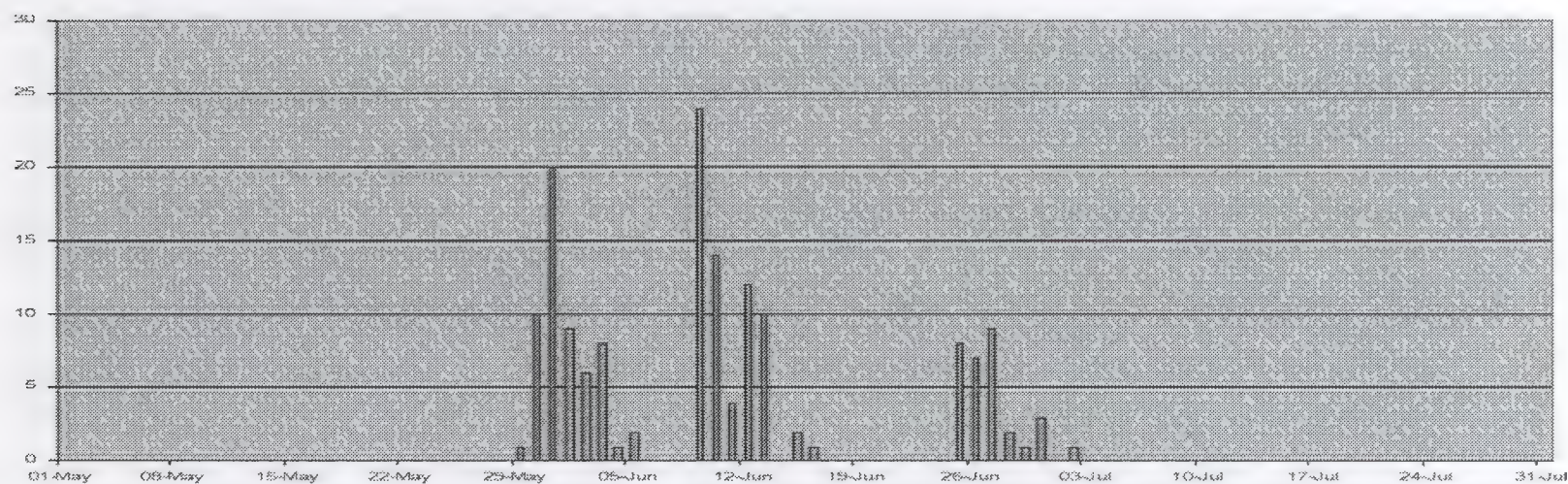


Figure 3. Occurrence times of immigrant *Itame brunneata* during 2009.

**1901 *Cepphis advenaria* (Hb.) Little Thorn [R][V/I]**

Coastal or extralimital records potentially relating to immigrants.

W. CORNWALL [1] Maenporth, 22.6 (Davis, 2010). S. DEVON [3] Starcross, 6-9.7 (Gould, 2011). ISLE OF WIGHT [10] Bonchurch, 25.5, 29.5 (JH).

**1918 *Selenia lunularia* (Hb.) Lunar Thorn [R][I/V]**

Coastal records of possible immigrant specimens, the majority of these away from suitable habitat and/or relating to second-brood examples.

E. SUFFOLK [25] Bawdsey, 7.8 (Deans, 2010).

**1921a *Crocallis dardoinaria* (Donzel) Dusky Scalloped Oak [I]**

DORSET [9] West Bexington, 22.8, first VC and second British record (PHS, DF).

**1936a *Menophra japygiaria* (Costa) Brassy Waved Umber [I/In]**

E. CORNWALL [2] Saltash, 21.5, new to Britain (E. Griffiths, in Truscott, 2010).

**1965a *Pseudocoremia suavis* (Butler) Common Forest Looper [In]**

W. CORNWALL [1] Greatwork, 11.6, 12.10 (TJ).



## SPHINGIDAE

**1973 *Acherontia atropos* (L.) Death's-head Hawk-moth [I][In]**

E. CORNWALL [2] Egloshayle, 26.8 (M. Bower per LACT). E. SUSSEX [14] Barcombe Mills, 19.8 (D. Brown, F. Southgate per CRP). E. KENT [15] Eastwell, nr. Ashford, 18.10 (per O. Leyshon). HUNTINGDONSHIRE [31] Little Paxton, 24.9, larva (per BD, via P. Bissell). BANFFSHIRE [94] Dufftown, 8.9 (A. Stubbs per RLe).

LIMERICK [H8] Castletroy, 28.10 (Walsh *et al.*, 2011). DONEGAL [H35] Letterkenny, 9.9 (Walsh *et al.*, 2011).

**1985 *Daphnis nerii* (L.) Oleander Hawk-moth [I][In]**

[A newly emerged adult reported in Sheffield [63] on 19.6 (B. Trevelyan per CHF) but not substantiated by a specimen or photograph.]

**1986 *Hyles euphorbiae* (L.) Spurge Hawk-moth [I][In]**

E. KENT [15] Densole, 26.6 (TR); Pegwell, 26.6 (Solly *et al.*, 2010). W. KENT [16] Hawkhurst, c.9.7, three larvae in a plant nursery (per IDF, via C. Orpin).

**1987 *Hyles gallii* (Rott.) Bedstraw Hawk-moth [I][R]**

DORSET [9] Portland Bird Observatory, 15.7 (Cade, 2010). N. HAMPSHIRE [12] Alresford, 10.7, by day (per T. Norriss). STAFFORDSHIRE [39] Wednesbury, 22.9 (T. Wood per DG).

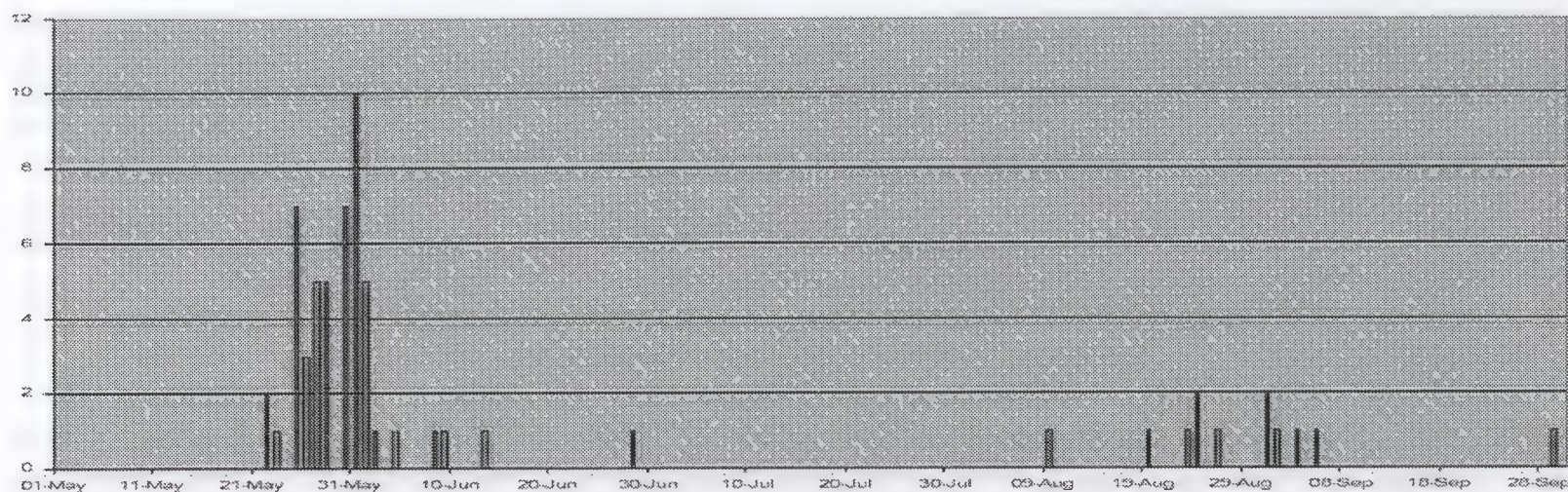
**1990 *Hyles livornica* (Esp.) Striped Hawk-moth [I]**

**Total no. reported: 69**

**By vice-county: 1 (8); 2 (1); 3 (1); 8 (1); 9 (13); 10 (1); 11 (1); 13 (3); 14 (2); 15 (10); 16 (1); 23 (1); 25 (4); 28 (1); 33 (1); 36 (1); H1 (3); H3 (10); H6 (5); H9 (1).**

W. CORNWALL [1] Cury, 23.5 (FTJ); Church Cove, 28.5 (MT); IOS: Longstone, St Mary's, 22.5 (2) (Scott, 2010); Poldhu, 28.5 (2), 13.6 (B. Jupp); Maenporth, 31.5 (Davis, 2010). E. CORNWALL [2] Donderry, 29.9 (SCM per LACT). S. DEVON [3] Uplyme, 27.5 (AK). S. WILTSHIRE [8] No site, 24.5 (per T. Norriss). DORSET [9] Charmouth, 26.5, 24.8 (GS); Dorchester, 9.8 (J. Down); Portland Bird Observatory, June (1), August (1), September (2) (Cade, 2010); Puddletown, 30.5, 1.6 (HWH); Studland, 31.8 (DCGB); Walditch, 19.8 (Parsons, 2010); West Bexington, 25.5 (MJS), 3.9 (Eden, 2010). ISLE OF WIGHT [10] Totland, 23.8 (Knill-Jones, 2010). S. HAMPSHIRE [11] Eastleigh, 30.5 (per T. Norriss). W. SUSSEX [13] Ferring, 26.8 (THF per CRP); Pagham, 28.5 (IL per CRP); Ringmer, 5.9 (AB per CRP). E. SUSSEX [14] Lindfield, 25.5 (R. Foreman per CRP); Wadhurst, 25.5 (AECA per CRP). E. KENT [15] Dymchurch, 25.5 (3) (JEO); Kingsgate, 27.5 (2) (FS per IDF); New Romney, 30.5 (KR); Pegwell, 25.5, 31.5 (FS per IDF); Ramsgate, 24.8 (PM per IDF); Whitfield, 1.9 (P. Martin per IDF). W. KENT [16] Lamberhurst, 27.5 (M. Tomlins per IDF). OXFORDSHIRE [23] Littlemore, 2.6 (D. Redhead per MCT). E. SUFFOLK [25] Bawdsey, 26.5, 28.5, 31.8 (Deans, 2010); Landguard, 26.5 (Odin, 2010). W. NORFOLK [28] Scolt Head NNR, 31.5 (N. Lawton). E. GLOUCESTERSHIRE [33] Swifts Hill, 28.6 (MM per RGG). HEREFORDSHIRE [36] Bodenham, 27.5 (R. Hemming).

KERRY [H1] Ballyferriter, 30.5 (2), 1.6 (J. Crosher, in Walsh *et al.*, 2011). W. CORK [H3] Clonakilty, 8.6, 9.6 (P. Rose, in Walsh *et al.*, 2011); Dursey Island, 30.5 (3), 31.5 (3), 1.6 (2) (D. Scott, in Walsh *et al.*, 2011). WATERFORD [H6] Brownstown, 31.5 (3), 4.6 (Bryant & Walsh, 2010); Great Newtown Head, 31.5 (Bryant & Walsh, 2010). CLARE [H9] Derrainey, 1.6 (KGMB, in Walsh *et al.*, 2011).



**Figure 4.** Occurrence times of *Hyles livornica* during 2009 (dated records).



**1993 *Hippotion celerio* (L.) Silver-striped Hawk-moth [I]**

DORSET [9] Portland Bird Observatory, 7.9, 18.10 (Cade, 2010). W. SUSSEX [13] Crawley Down, 7.10 (JHC); Portslade, c.14.10 (F. Selkirk); Walberton, 13.11 (JTR). E. SUSSEX [14] Heathfield, 19.8 (DRML). S.E. YORKSHIRE [61] Muston, 16.7 (PQW per CHF); Spurn, 28.8 (Spence, 2010). WESTMORLAND [69] Roudsea Moss, 27.7 (JK).

**NOTODONTIDAE****2018 *Clostera anachoreta* (D. & S.) Scarce Chocolate-tip [I][FR][MC?]**

Excluding records from the Dungeness area in VC15 where a breeding colony is probably extant.

E. KENT [15] Kingsgate, 27.7 (Solly *et al.*, 2010); Pegwell, 28.7, 31.7 (3), 13.8 (Solly *et al.*, 2010); Ramsgate, 20.7 (Solly *et al.*, 2010); St Margaret's at Cliffe, 26.7 (Jarman & Morris, 2010).

**LYMANTRIIDAE****2031 *Leucoma salicis* (L.) White Satin [R][I/V]**

Extralimital, coastal records of possible immigrants.

W. CORNWALL [1] The Lizard, 28.6, 2.7 (Tunmore, 2010). S. DEVON [3] Uplyme, 29.6 (2) (AK). DORSET [9] Portland, 29.6 (3) (Cade, 2010). S. NORTHUMBERLAND [67] Tynemouth, 30.6 (TJT).

**2034 *Lymantria dispar* (L.) Gypsy Moth [I][FR][In]**

Not including records associated with introduced resident populations in the London area and on the Dorset/Hampshire border.

N. HAMPSHIRE [12] Liss, August, 4 adults recorded during month, thought to relate to an artificial introduction (per T. Norriss). E. KENT [15] Folkestone, 31.7, 4.8, 11.8 (TR per IDF), 19.8 (BFS). E. SUFFOLK [25] Bawdsey, 10.8 (Deans, 2010).

**ARCTIIDAE****2045 *Eilema caniola* (Hb.) Hoary Footman [R][I/V]**

Coastal, extralimital records considered most likely to relate to immigrant examples.

DORSET [9] West Bexington, 27.8 (RE, in Davey, 2010). KENT [15] Pegwell, 13.7, 14.7 (Solly *et al.*, 2010).

**2046 *Eilema pygmaeola* (Doubl.) Pigmy Footman [R][V/I]**

Records away from suitable habitat in VC's 15 & 27.

E. SUFFOLK [25] Dunwich Heath, 25.6 (Moore & Deans, 2010).

**2051 *Lithosia quadra* (L.) Four-spotted Footman [R][I]**

Extralimital, coastal records of probable immigrants.

W. SUSSEX [13] Ferring, 25.6 (THF per CRP); Walberton, c.10.10 (JTR per CRP); West Wittering, 26.10 (DL per CRP). E. SUSSEX [14] Friston, 22.7 (5), 13.8, 21.9, 22.9, 7.10 (MB per CRP); Hurst Green, 28.6 (M. Phillips per CRP). E. KENT [15] Dymchurch, 20.7 (JEO); Dungeness, 19.9 (MPS *et al.*); Folkestone, 4.8 (TR per IDF); New Romney, 20.8 (AMT); Pegwell, 11.8 (Solly *et al.*, 2010); Ruckinge, 19.9 (BBo). E. NORFOLK [27] Buxton Heath, 27.6 (R. Lee per J. Wheeler).

**2067 *Euplagia quadripunctaria* (Poda) Jersey Tiger [R][I/V]**

Records away from known resident populations in VC's 2, 3, 9, 10, 16 & 17.

W. SUSSEX [13] Pagham, 22.8 (IL per CRP); Ringmer, 6.8 (P. Winter per CRP). E. SUSSEX [14] Icklesham, 15.8 (Hunter, 2010); Winchelsea, 8.8 (LL per CRP). E. KENT [15] Folkestone, late July/August (14) (TR). S. LINCOLNSHIRE [53] Nr. Lincoln, 11.8 (MG).

**CTENUCHIDAE****2074a *Antichloris eriphia* (Fabr.) Banana Stowaway [In]**

ISLE OF WIGHT [10] Newport, mid-October, empty pupal case found on supermarket bananas (N. Green per SAK-J). BANFFSHIRE [94] Dufftown, 2.10, in a crate of bananas imported from Costa Rica, first VC record (W. Bourne per RLe, det. MRY).

**NOLIDAE****2076 *Meganola albula* (D. & S.) Kent Black Arches [R][V/I]**

Coastal/extralimital records, likely to relate to internal dispersal or immigration.

W. CORNWALL [1] Buryas Bridge, 20.7 (LO).

**2079 *Nola aerugula* (Hb.) Scarce Black Arches [I]**

DORSET [9] Wyke Regis, 2.7 (DF, in Davey, 2010). E. KENT [15] Kingsdown, 27.6 (Jarman & Morris, 2010); Kingsgate, 27.6, 2.7, 4.7 (2) (Solly *et al.*, 2010). W. KENT [16] Grain, 26.6 (2), 27.6 (AGJB). E. NORFOLK [27] Eccles-on-sea, 3.7, 9.7 (Bowman, 2010).



## NOCTUIDAE

**2080** *Euxoa obelisca* (D. & S.) Square-spot Dart [R][V/I]

Extralimital records that may refer to immigrants.

ISLE OF WIGHT [10] Bonchurch, 10.9 (JH).

**2099** *Actebia praecox* (L.) Portland Moth [R][I/V]

Extralimital records that may relate to immigrant examples.

E. KENT [15] Lydd-on-sea, 24.8 (B. Dinsley).

**2104** *Standfussiana lucernea* (L.) Northern Rustic [R][I/V]

Extralimital, coastal records with a potentially immigrant origin.

E. SUFFOLK [25] Bawdsey, 6.8, first VC record (MJD).

**2107** *Noctua pronuba* (L.) Large Yellow Underwing [R][I]

Significant coastal influxes likely to indicate large immigrations.

E. SUFFOLK [25] Bawdsey, 20.7 (c.1500), 25.7 (c.1000) (MJD).

**2137** *Eurois occulta* (L.) Great Brocade [I][R]

The following record is thought to relate to the pale immigrant form.

E. NORFOLK [27] Bowthorpe, Norwich, 4.7 (M. Beale per J. Wheeler).

**2140** *Cerastis leucographa* (D. & S.) White-marked [R][I]

Extralimital records of potential immigrants.

E. KENT [15] Beltinge, 10.4 (BH).

**2160a** *Lacanobia splendens* (Hb.) Splendid Brocade [I]

S. DEVON [3] Whiddon Down, 29.6 (RW). E. KENT [15] Dungeness, 27.6 (BBa); Dymchurch, 14.7 (JEO).

**2183** *Orthosia miniosa* (D. & S.) Blossom Underwing [R][I/V]

Coastal or extralimital records that may relate to immigrants.

S. HAMPSHIRE [11] Sandy Point, Hayling Island, 11.4 (Phillips & Johnson, 2010). E. KENT [15] Dungeness, 15.4 (2) (Clancy, 2010); Greatstone, 11.4 (Clancy, 2010); Lydd-on-sea, 9.4 (Clancy, 2010); Pegwell, 8.4 (Solly *et al.*, 2010); Ramsgate, 7.4, 10.4 (Solly *et al.*, 2010). S.E. YORKSHIRE [61] Easington, 12.4 (MFS per BRS); Spurn, 10.4 (Spence, 2010); first VC records. MID-W. YORKSHIRE [64] Burley-in-Wharfedale, 14.4 (PAR per CHF).

**2194** *Mythimna albipuncta* (D. & S.) White-point [R][I/V]

An established resident within the southern and eastern seaboard counties between VC's 3 & 28, and inland to include VC's 12, 16, 17, 20, 22 & 26; records are only listed from outside this area, although many of those listed are likely to be associated with an ongoing range expansion.

W. CORNWALL [1] The Lizard, October (1) (Tunmore, 2010). E. CORNWALL [2] Donderry, 18.9 (SCM per LACT). HUNTINGDONSHIRE [31] Earith, 14.8 (D. Griffiths per BD); Holmewood Hall, 12.8 (P. Horsenail per BD). NORTHAMPTONSHIRE [32] Woodnewton, 21.10 (N. Smith per JW). S.E. YORKSHIRE [61] Atwick, 22.8, 24.8 (WMC per CHF); Kilnsea, 11.8, 16.8, 23.8, 22.10 (PAC, BRS per CHF).

**2208** *Mythimna loreyi* (Dup.) Cosmopolitan [I]

W. CORNWALL [1] The Lizard, 27.10, 28.10 (Tunmore, 2010). DORSET [9] Shaggs, 27.10 (LJH, in Davey, 2010).

WICKLOW [H20] Cronykeery, 30.10 (AT, in Walsh *et al.*, 2011).

**2223** *Calophasia lunula* (Hufn.) Toadflax Brocade [R][V/I]

A localised resident in the southern seaboard counties between VC's 13 & 25, and VC's 16 & 21; records from these VC's are excluded as they are likely to originate from breeding populations.

DORSET [9] Portland Bird Observatory, 8.8 (Cade, 2010).

**2226** *Leucochlaena oditis* (Hb.) Beautiful Gothic [R][I/V]

Extralimital records that may relate to immigrants.

W. CORNWALL [1] Lizard, 22.10 (MT).



**2241 *Xylena vetusta* (Hb.) Red Sword-grass [R][I][V]**

Records of a potentially immigrant origin.

W. CORNWALL [1] Cury Cross Lanes, 22.10 (Tunmore, 2010); Siblyback Moor, 15.10 (LO). DORSET [9] Portland Bird Observatory, 27.10 (Cade, 2010). ISLE OF WIGHT [10] Totland, 10.3 (SAK-J). S.E. YORKSHIRE [61] Spurn, 30.3, 2.4, 23.4, 15.10 (Spence, 2010).

**2248b *Dryobotodes tenebrosa* (Esp.) Sombre Brocade [I][MC]**

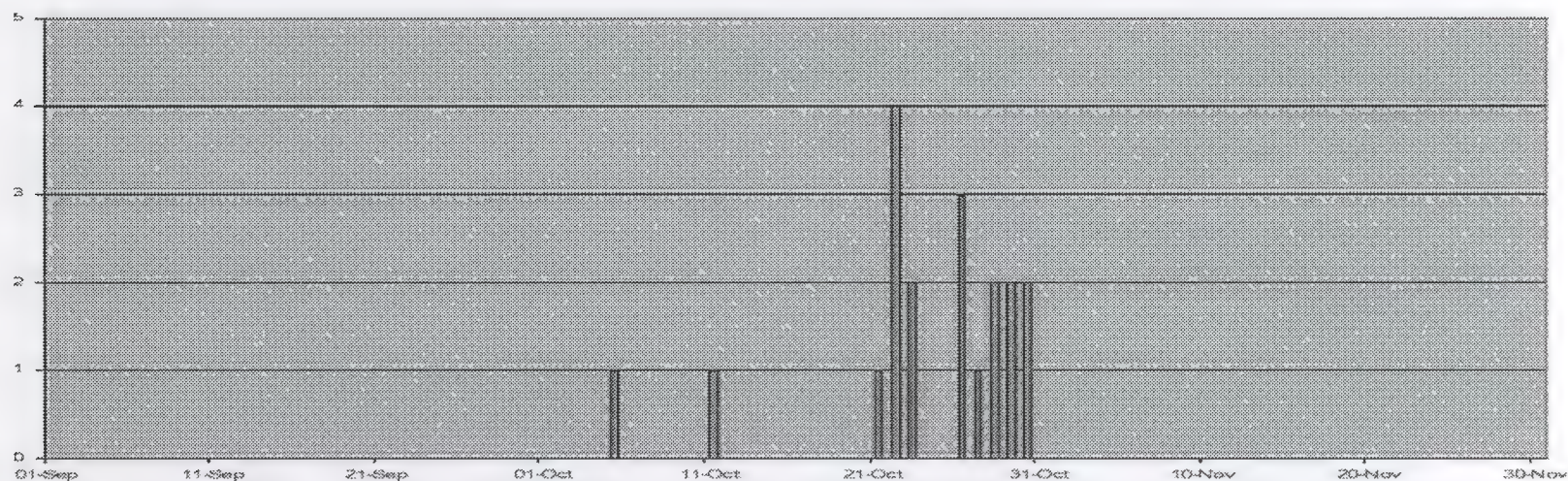
DORSET [9] Durlston, 29.9, 5.10, 9.10, 10.10 (PAD, MJD *et al.*); only one previous record from the same locality in 2008 (see Clancy, 2011), these records likely to relate to locally bred moths.

**2251 *Trigonophora flammea* (Esp.) Flame Brocade [I][FR][MC?]**

**Total no. reported: 20**

**By vice-county: 9 (8); 10 (6); 11 (3); 13 (3).**

DORSET [9] Durlston, 26.10 (AJK), 28.10 (PAD), 29.10 (2) (BFS), 30.10 (PAD); Langton Matravers, 26.10 (DCGB); Portland Bird Observatory, 11.10 (Cade, 2010); West Bexington, 28.10 (Eden, 2010). ISLE OF WIGHT [10] Bonchurch, 22.10, 30.10 (Knill-Jones, 2010); Freshwater, 22.10 (D. Cooke); Totland, 21.10, 22.10, 27.10 (Knill-Jones, 2010). S. HAMPSHIRE [11] Lymington, 30.10 (per T. Norriss); Sandy Point, Hayling Island, 22.10, 23.10 (Phillips & Johnson, 2010). W. SUSSEX [13] Earnley, 5.10 (JH); West Wittering, 23.10, 26.10 (DL).



**Figure 5.** Occurrence times of *Trigonophora flammea* during 2009.

**2261 *Conistra erythrocephala* (D. & S.) Red-headed Chestnut [I][MC?]**

DORSET [9] Durlston, 28.10 (R. Hilton); Langton Matravers, 29.10 (DCGB). S. HAMPSHIRE [11] Sandy Point, Hayling Island, 30.10 (Phillips & Johnson, 2010); West Town, Hayling Island, 28.10 (GSAS, in Phillips & Johnson, 2010). E. SUFFOLK [25] Bawdsey, 2.11 (Deans, 2010).

**2275 *Xanthia gilvago* (D. & S.) Dusky-lemon Sallow [R][V/I]**

Coastal records away from suitable breeding habitat that may be the result of immigration.

S. HAMPSHIRE [11] Sandy Point, Hayling Island, 11.10 (Phillips & Johnson, 2010); Southsea, 2.10 (IRT). N. ESSEX [19] St Osyth, 18.9 (CA). E. SUFFOLK [25] Bawdsey, 19.9, 24.9, 29.9 (Deans, 2010); Reydon, 19.9 (2), 26.9 (AC).

**2276 *Xanthia ocellaris* (Borkh.) Pale-lemon Sallow [R][I][V]**

Extralimital/coastal records that are likely to relate to immigrant examples.

S. HAMPSHIRE [11] Sandy Point, Hayling Island, 27.9 (Phillips & Johnson, 2010); Southsea, 29.9 (IRT). E. KENT [15] Dymchurch, 16.10 (JEO).

**2292 *Cryphia algae* (Fab.) Tree-lichen Beauty [I][R]**

Records listed exclude those clearly associated with the established resident populations in VC's 10, 11, 15, 16, 17, 18, 20, 21 & 25; although a number of records listed are more likely to relate to internal range spread rather than primary immigration.

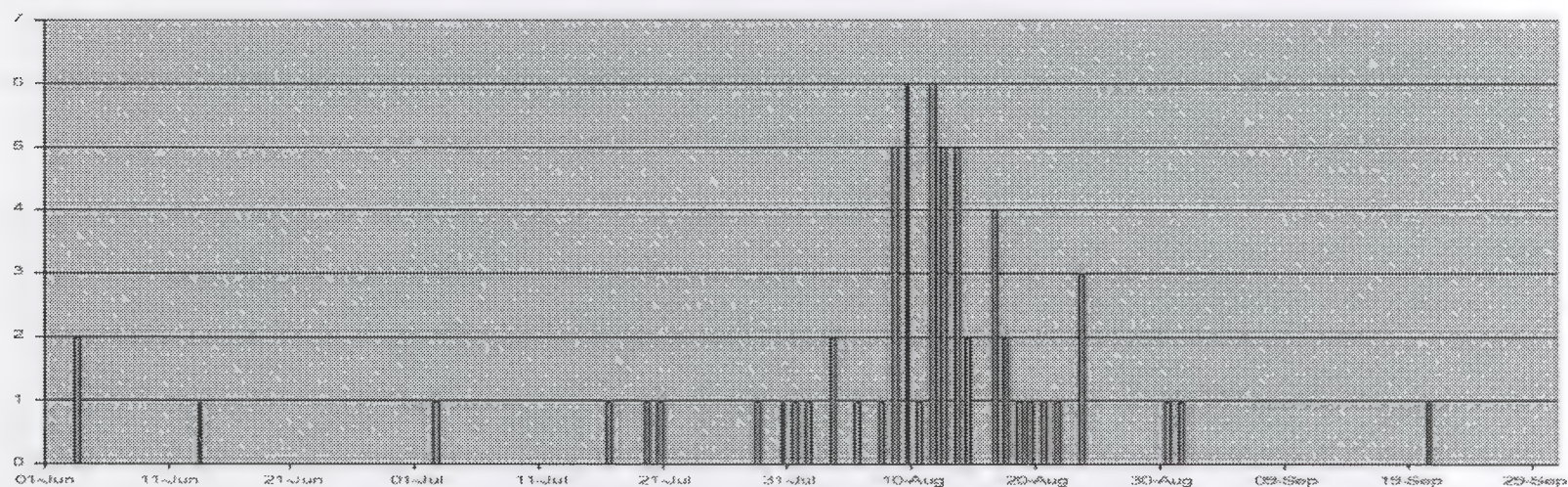
W. SUSSEX [13] Ferring, 25.7, 28.7, 31.7 (2) (THF per CRP); Pagham, 31.7 (2) (IL). E. SUSSEX [14] Bexhill, 1.8, 25.8 (DC per CRP). E. KENT [15] Dungeness, 31.7 (JHC), 7.8 (BFS); Kingsdown Beach & St Margaret's at Cliffe, August (4) (Jarman & Morris, 2010). N. ESSEX [19] St Osyth, 19.8 (CA). E. SUFFOLK [25] Dunwich Heath, 15.8 (Moore & Deans, 2010); Ipswich, 10.8 (2) (NS); Landguard, 28.7 – 7.8 (5) (Odin, 2010). HUNTINGDONSHIRE [31] Earith, 23.8 (D. Griffiths per BD).



- 2294** *Cryphia raptricula* (D. & S.) **Marbled Grey [I]**  
E. SUFFOLK [25] Landguard, 3.8 [not 4.8 as published in Odin, 2010, and elsewhere] (NO).
- 2304** *Trachea atriplicis* (L.) **Orache Moth [I][FR]**  
DORSET [9] Puddletown, 16.7 (HWH). ISLE OF WIGHT [10] Totland, 18.7 (2), 1.8 (SAK-J). E. SUSSEX [14] Friston, 22.7 (MB). E. KENT [15] Kingsgate, 28.7 (Solly *et al.*, 2010). S. LANCASHIRE [59] Broadgreen, Liverpool, 4.7, first VC record (DH per SMP). S.E. YORKSHIRE [61] Easington, 25.6 (re-trapped on 26.6 & 28.6) (MFS per BRS).
- 2097** *Actinotia polyodon* (Clerck) **Purple Cloud [I]**  
S.E. YORKSHIRE [61] Spurn, 15.5, first VC record (Spence, 2010).
- 2328** *Apamea lateritia* (Hufn.) **Scarce Brindle [I]**  
SHETLAND ISLANDS [112] Fair Isle, 23.7 (P. Thompson per NJR).
- 2347** *Chortodes extrema* (Hb.) **Concolorous [R][I]**  
Coastal records away from known resident populations.  
E. KENT [15] Densole, 7.7 (TR); Kingsdown, 1.6 (Jarman & Morris, 2010).
- 2348** *Chortodes elymi* (Hb.) **Lyme Grass [R][I/V]**  
Coastal records away from known resident populations.  
E. KENT [15] Kingsdown, 26.6 (Jarman & Morris, 2010).
- 2349** *Chortodes fluxa* (Hb.) **Mere Wainscot [R][I/V]**  
Coastal records away from known resident populations.  
S. HAMPSHIRE [11] Sandy Point, Hayling Island, 21.7 (Phillips & Johnson, 2010); Wickham Common, 2.7 (per T. Norriss). S.E. YORKSHIRE [61] Spurn, 17.7 (Spence, 2010).
- 2357** *Amphipoea lucens* (Frey.) **Large Ear [R][I]**  
Records from southern & eastern England outside the known breeding range.  
E. KENT [15] Dungeness, 12.8 (JHC); Lydd-on-sea, 2.8 (B. Dinsley per SPC).
- 2386c** *Spodoptera cilium* (Guen.) **Dark Mottled Willow [I]**  
W. CORNWALL [1] IOS: Longstone, St Mary's, 6.10 (MWS).
- 2392a** *Proxenus hospes* (Frey.) **Porter's Rustic [I]**  
W. SUSSEX [13] Church Norton, 23.10 (BFS). E. KENT [15] Lydd-on-sea, 25.8 (DB); Sissinghurst, 8.8 (SJB). E. SUFFOLK [25] Landguard, 25.6, 18.8 (Odin, 2010).
- 2401** *Heliothis virescens* (Hufn.) **Marbled Clover [R][I/V]**  
Coastal/extralimital records that may relate to immigrant or vagrant examples.  
E. SUFFOLK [25] Bawdsey, 2.7 (MJD).
- 2407a** *Eublemma purpurina* (D. & S.) **Beautiful Marbled [I]**  
DORSET [9] West Bexington, 16.8 (Eden, 2010).
- 2408** *Eublemma parva* (Hb.) **Small Marbled [I]**  
W. CORNWALL [1] IOS: Hugh Town, St Mary's, 14.10 (Scott, 2010); Sennen, 3.6 (ME). DORSET [9] Durlston, 30.10 (JHC); Portland Bird Observatory, 18.8 (Cade, 2010); Puddletown, 5.6 (HWH); West Bexington, 30.5, 2.6 (Eden, 2010). ISLE OF WIGHT [10] Bonchurch, 31.5 (Knill-Jones, 2010). S. HAMPSHIRE [11] Lymington, 31.5 (per T. Norriss); Southsea, 12.8 (IRT); Titchfield Haven, 13.8 (per T. Norriss). W. SUSSEX [13] Ferring, 25.5 (THF); Horsham, 30.5 (SB, CH *et al.*).
- 2413** *Deltote bankiana* (Fab.) **Silver Barred [R][I/V]**  
Coastal records away from known populations.  
E. SUSSEX [14] Pevensey, 28.6 (JS per CRP). E. KENT [15] Dover, 26.6 (DCG per IDF); Kingsdown, 2.7 (Jarman & Morris, 2010); Pegwell, 12.7 (Solly *et al.*, 2010). W. KENT [16] Grain, 27.6 (AGJB per IDF). E. SUFFOLK [25] Hollesley, 26.6 (Deans, 2010).
- 2415** *Acontia lucida* (Hufn.) **Pale Shoulder [I]**  
E. KENT [15] Lydd-on-sea, 5.8 (B. Dinsley), 6.8 (DB).



- 2418** *Earias clorana* (L.) Cream-bordered Green Pea [R][I/V]  
W. CORNWALL [1] The Lizard, 28.6 (23) (Tunmore, 2010).
- 2420** *Earias insulana* (Boisd.) Egyptian Bollworm [I][In]  
NORTHAMPTONSHIRE [32] Woodnewton, 27.10 [incorrectly dated as 27.10.2010 in Smith & Hammond, 2010] (N. Smith).
- 2420a** *Earias vittella* (Fabr.) Eastern Bollworm [In]  
MIDDLESEX [21] Hornsea, 2.9, first VC record (MA per CWP).
- 2428** *Chrysodeixis chalcites* (Esp.) Golden Twin-spot [I][In]  
E. KENT [15] Dumpton, 20.9 (Solly *et al.*, 2010); Pegwell, 8.9 (Solly *et al.*, 2010); Ramsgate, 29.10 (Solly *et al.*, 2010). S. ESSEX [18] Bradwell-on-sea, 12.10 (Dewick, 2010). N.E. YORKSHIRE [62] Marske Beach, 4.8 (DM per CHF). S. NORTHUMBERLAND [67] Tynemouth, 6.8 (Tams, 2010).
- 2429** *Chrysodeixis acuta* (Walk.) Tunbridge Wells Gem [I]  
DORSET [9] West Bexington, 30.10 (DF).
- 2432** *Trichoplusia ni* (Hb.) Ni Moth [I]  
**Total no. reported: 62**  
**By vice-county: 1 (1); 9 (18); 10 (1); 11 (9); 12 (3); 13 (3); 14 (1); 15 (21); 18 (1); 28 (1); 32 (1); H6 (2).**  
W. CORNWALL [1] Church Cove, The Lizard, 11.8 (Tunmore, 2010). DORSET [9] Puddletown, 3.6, 9.8, 12.8 (HWH); Shapwick, 31.7 (PAD); Swanage, 20.8 (ARC); West Bexington, 8.8 (2), 9.8 (2), 10.8, 11.8, 12.8, 16.8, 17.8, 23.8 (RE, MJS); Weymouth, 20.7, 13.8 (PH); Wyke Regis, 12.8 (DF). ISLE OF WIGHT [10] Bonchurch, 1.8 (Knill-Jones, 2010). S. HAMPSHIRE [11] Fareham, 3.8 (K. Wheeler); Northney, Hayling Island, 14.8, 17.8 (Phillips & Johnson, 2010); Sandy Point, Hayling Island, 16.8 (Phillips & Johnson, 2010); Sholing, 21.8 (A. Collins); Southsea, 14.8, 20.9 (IRT); Stubbington, 19.8 (per T. Norriss); Wickham Common, 16.8 (per T. Norriss). N. HAMPSHIRE [12] Chilbolton, 28.7, 12.8 (per T. Norriss); Kempshott, 3.8 (GAH per AHD). W. SUSSEX [13] Ferring, 23.8 (THF per CRP); Walberton, early August (JTR per CRP); West Wittering, 30.8 (DL per CRP). E. SUSSEX [14] Peacehaven, 30.7 (Pratt, 2010). E. KENT [15] Densole, 11.8 (TR); Dungeness, 16.7, 8.8, 12.8 (JHC, JEC, KR); Dymchurch, 31.8 (JEO); Faversham, 18.8 (JSB per IDF); Kingsgate, 19.7, 11.8 (FS per IDF); Lydd, 13.8 (KR); Lydd-on-sea, 9.8 (B. Dinsley); New Romney, 9.8 (2), 11.8, 13.8 (AMT, KR); Pegwell, 7.8, 23.8 (FS per IDF); Ramsgate, 8.8, 13.8 (PM, DS per IDF); St Margaret's at Cliffe, 13.8, 16.8 (Jarman & Morris, 2010); Sandwich Bay Bird Observatory, 11.8 (Howe, 2010). S. ESSEX [18] Bradwell-on-sea, 13.6 (Dewick, 2010). W. NORFOLK [28] Holme Dunes, 8.8 (G. Hibberd per J. Wheeler). NORTHAMPTONSHIRE [32] Oundle, 5.8 (P. Horsnail per JW). WATERFORD [H6] Tramore, 3.6, 2.7 (TB, in Walsh *et al.*, 2011).



**Figure 6.** Occurrence times of *Trichoplusia ni* during 2009 (dated records).

- 2436** *Macdunnoughia confusa* (Steph.) Dewick's Plusia [I][In][MC?]  
**Total no. reported: 27**  
**By vice-county: 10 (1); 11 (5); 13 (2); 14 (3); 15 (9); 16 (1); 18 (2); 19 (1); 25 (2); 61 (1).**  
ISLE OF WIGHT [10] Bonchurch, 13.4 (Knill-Jones, 2010). S. HAMPSHIRE [11] Fareham, 6.9 (R.J. Dickson); Northney, Hayling Island, 6.9, 11.9 (Phillips & Johnson, 2010); Portsmouth, 24.9 (per T. Norriss); West Town, Hayling Island, 13.9 (GSAS, in Phillips & Johnson, 2010). W. SUSSEX



[13] Earnley, 6.10 (JH); Ferring, 17.9 (THF). E. SUSSEX [14] Bexhill, 14.5 (JS); Elms Farm, Icklesham, 5.9, 1.10 (Hunter, 2010). E. KENT [15] Biddenden, 30.9 (SJB); Denstead Wood, 28.7 (IDF); Dumpton, 26.8 (Solly *et al.*, 2010); Faversham, 8.9 (A. Witts per IDF); Greatstone, 27.7 (PB, MJD); Hythe, 13.6 (IAR); Kingsgate, 25.9 (Solly *et al.*, 2010); New Romney, 18.7, 15.9 (SPC). W. KENT [16] Grain, 17.9 (AGJB per IDF). S. ESSEX [18] Bradwell-on-sea, 4.8 (Dewick, 2010); Maldon, 5.8 (S. Wood). N. ESSEX [19] St Osyth, 18.9 (CA). E. SUFFOLK [25] Bawdsey, 14.9 (Deans, 2010); Eye, 15.7 (PK). S.E. YORKSHIRE [61] Spurn, 18.7 (Spence, 2010).

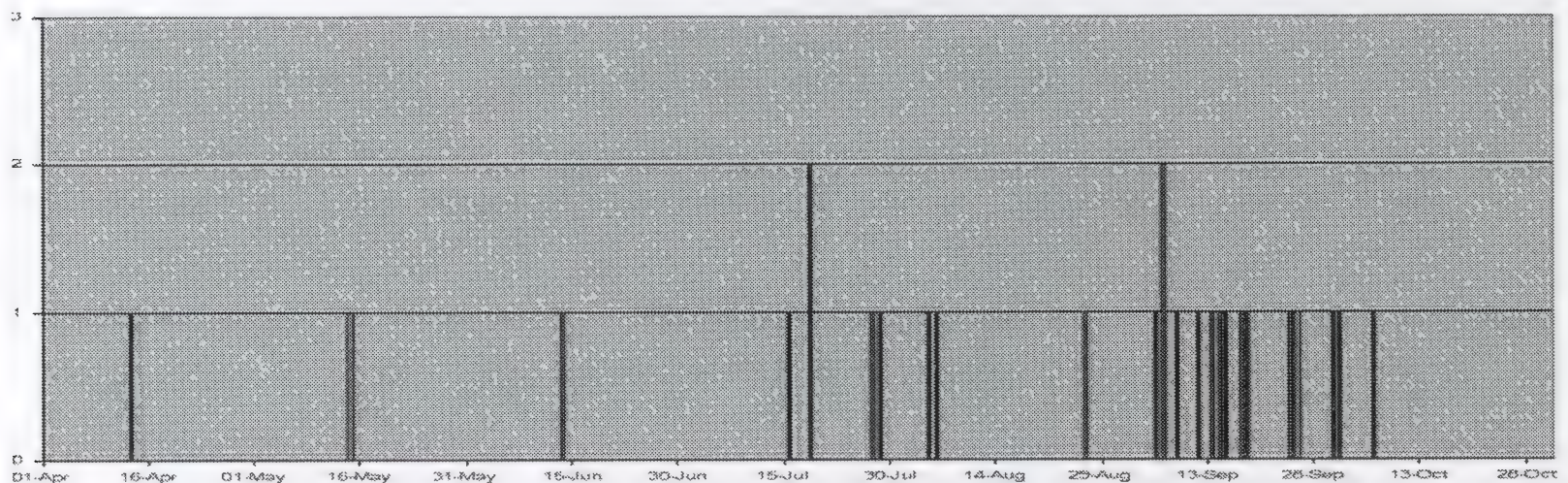


Figure 7. Occurrence times of *Macdunnoughia confusa* during 2009.

**2444 *Autographa bractea* (D. & S.) Gold Spangle [R][V/I]**

Extralimital records of potentially immigrant examples.  
S.E. YORKSHIRE [61] Spurn, 4.7 (Spence, 2010).

**2451 *Catocala fraxini* (L.) Clifden Nonpareil [I][FR][MC]**

Total no. reported: 24

By vice-county: 9 (9); 10 (5); 11 (5); 14 (1); 15 (2); 27 (1); 28 (1).

DORSET [9] Affpuddle, 18.9, 19.9, 29.9 (AM); Shaggs, 28.9, 29.9 (LJH); Studland, 29.8, 1.9 (JB, in Davey, 2010), 26.10 (DCGB); Wimborne, 16.9 (DMG). ISLE OF WIGHT [10] Bonchurch, 28.9 (2) (JH); Cranmore, 18.9 (Knill-Jones, 2010); Totland, 17.9, 20.9 (Knill-Jones, 2010). S. HAMPSHIRE [11] Bank, 15.10 (A. Duncan); Brockenhurst, 22.8, 30.9 (RBW); Mottisfont, 29.9 (per T. Norriss); Wickham Common, 7.10 (per T. Norriss). E. SUSSEX [14] Elms Farm, Icklesham, 23.9 (Hunter, 2010). E. KENT [15] Sissinghurst, 22.9, 10.10 (SJB). E. NORFOLK [27] Catfield Fen, 11.8 (DGG per J. Wheeler). W. NORFOLK [28] Titchwell, 15.9 (P. Eele per J. Wheeler).

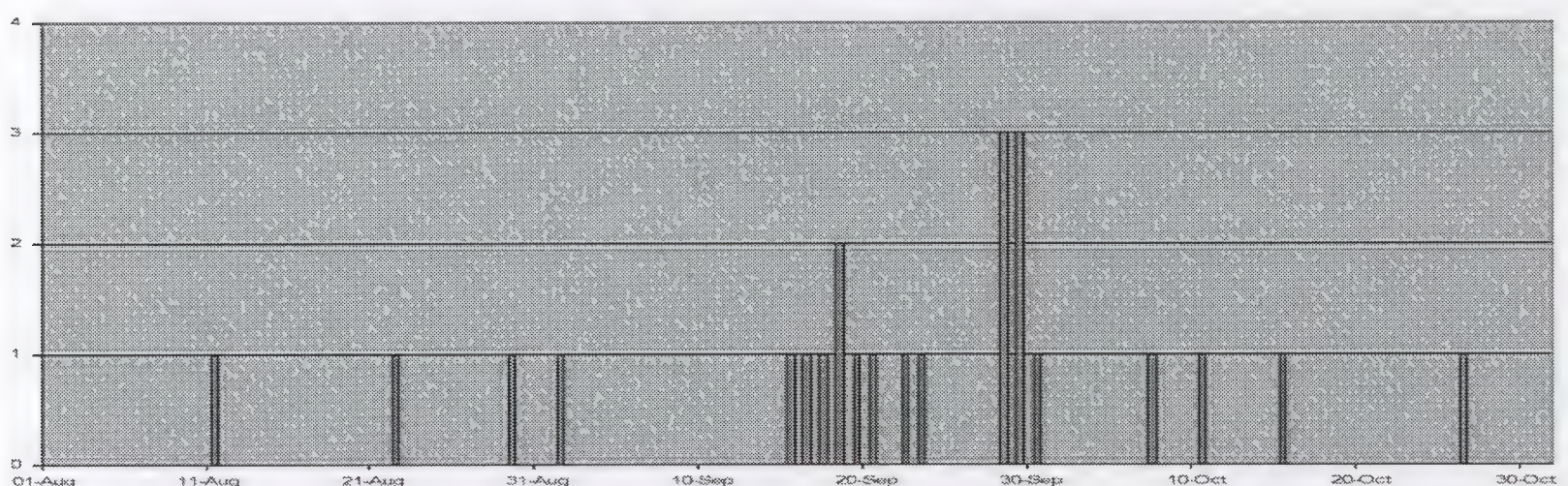


Figure 8. Occurrence times of *Catocala fraxini* during 2009.

**2453 *Catocala electa* (View.) Rosy Underwing [I]**

ISLE OF WIGHT [10] Totland, 21.8, first VC record (Knill-Jones, 2010).

**2454 *Catocala promissa* (D. & S.) Light Crimson Underwing [R][I/V]**

Records away from breeding populations in and around the New Forest that may relate to immigrant examples.

DORSET [9] Site details withheld, 1.8, 'possible immigrant' (Davey, 2010).



- 2455** *Catocala sponsa* (L.) **Dark Crimson Underwing [R][I]**  
Records away from breeding populations in and around the New Forest that may relate to immigrant examples.  
S. DEVON [3] Teignmouth, 21.8 (RFM). E. KENT [15] Sholden, 7.8 (L. Hirst per IDF).
- 2464a** *Aedia leucomelas* (L.) **Sorcerer [I]**  
N. ESSEX [19] Brightlingsea, 12.8, second British and first VC record (D. Scott).
- 2465** *Tyta luctuosa* (D. & S.) **Four-spotted [R][I/V]**  
Coastal/extralimital records of possible immigrant or vagrant examples.  
E. KENT [15] Sandwich Bay Bird Observatory, 10.8 (Howe, 2010).
- 2471a** *Dinumma deponens* (Walk.) **Landguard Curved Ribbon [In]**  
E. SUFFOLK [25] Landguard, 2.5, new to Britain; an Asian species unlikely to occur in Britain naturally (NO *et al.*).
- 2475** *Parascotia fuliginaria* (L.) **Waved Black [R][I/V]**  
Coastal/extralimital records of possible immigrant examples.  
W. SUSSEX [13] Pagham, 8.7 (IL).
- 2476** *Hypena crassalis* (Fab.) **Beautiful Snout [R][V/I]**  
Coastal/extralimital records of possible immigrant examples.  
S. HAMPSHIRE [11] Sandy Point, Hayling Island, 9.7 (Phillips & Johnson, 2010).
- 2478** *Hypena obsitalis* (Hb.) **Bloxworth Snout [R][V/I]**  
Records away from known breeding populations in VC's 1, 2, 3, 9 & 10.  
S. HAMPSHIRE [11] Southsea, 30.10 (JRL). E. KENT [15] Lydd-on-sea, 7.9 (TR per BFS).
- 2488a** *Pechipogo plumigeralis* (Hb.) **Plumed fan-foot [I][MC]**  
All received/sourced records are listed, although many of these may be the result of localised breeding rather than primary immigration.  
W. SUSSEX [13] Ferring, 19.9 (THF). E. SUSSEX [14] Bexhill, 3.8, 18.8 (JS). E. KENT [15] Greatstone, 9.8 (BBa); Pegwell, 25.6, 24.8 (Solly *et al.*, 2010); Ramsgate, 20.8 (Solly *et al.*, 2010).
- 2495** *Trisateles emortualis* (D. & S.) **Olive Crescent [R][I]**  
Coastal/extralimital records away from suitable breeding habitat.  
ISLE OF WIGHT [10] Bonchurch, 25.6 (Knill-Jones, 2010). S. HAMPSHIRE [11] Lovedean, 12.7 (A. Jafkins). S. ESSEX [18] Bradwell-on-sea, 27.6 (Dewick, 2010).

## ANNEX 2: SELECTED RECORDS OF COMMONER MIGRANT SPECIES IN 2009

Numerical summaries are not provided for the migrant butterfly species listed in Annex 2, or for the commoner immigrant species *Plutella xylostella*, *Udea ferrugalis*, *Nomophila noctuella*, *Agrotis ipsilon* or *Autographa gamma*. This is due to the lack of comprehensive records, or the generalised, non-specific nature (or absence) of reports, of these species from many sites. Significant records, site totals and general comments have been given for these species, and county summaries of the diurnal records of the migrant butterflies and *Macroglossum stellatarum* are provided where these have been made available in spreadsheet format.

It has also not been possible to allocate months of occurrence to all the records of Annex 2 species reported. It is therefore the case that the total given for the



number of reported records is based on the figures given in the distributional table, this generally being greater than the sum of the monthly totals given within the lower table. Only records of adults are included in the tables and numerical totals and, whilst it is likely that these will not always be comprehensive, the geographical and chronological occurrence patterns presented should closely reflect the overall picture for each species where these are given.

### Key to the symbols used within the distribution tables:

**SW** – South-west England (VC's 1-4).

**CS** – Central southern England (coastal) (VC's 5, 6, 9-11, 13).

**SE** – South-east England (coastal) (VC's 14-16, 18, 19).

**EA** – East Anglia & Lincolnshire (VC's 25-28, 53, 54).

**SI** – Southern England (inland) (VC's 7, 8, 12, 17, 20-24, 29-34).

**W** – Wales (VC's 35, 41-52).

**CE** – Central England (inland) (VC's 36-40, 53-58).

**NE** – North-east England (VC's 61, 62, 66-68).

**NW** – North-west England & the Isle of Man (VC's 59, 60, 63-65, 69-71).

**S** – Scotland (VC's 72-112).

**I** – Ireland (VC's H1-H40).

### YPONOMEUTIDAE

#### 0464 *Plutella xylostella* (L.) [R][I]

**Selected annual totals from fixed traps (1000+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 1536 (Scott, 2010). DORSET [9] Portland Bird Observatory – 4091 (Cade, 2010). E. KENT [15] Dungeness area – 2049 at three sites (Clancy, 2010); Kingsdown Beach & St Margaret's at Cliffe – 1509 at two sites (Jarman & Morris, 2010); Isle of Thanet – 12195 at five sites (Solly *et al.*, 2010); Sandwich Bay Bird Observatory – 8739 (Howe, 2010). E. SUFFOLK [25] Bawdsey – 2388 (Deans, 2010); Landguard – 3759 (Odin, 2010). E. NORFOLK [27] Eccles-on-sea – 1211 (Bowman, 2010). S.E. YORKSHIRE [61] Spurn – 2425 at three sites (Spence, 2010). S. NORTHUMBERLAND [67] Tynemouth – 2395 (Tams, 2010).

**Earliest dates:** ISLE OF WIGHT [10] Bonchurch, 13.3 (JH). E. NORFOLK [27] Overstrand, 29.3 (5) (G. Bond per J. Wheeler). S. LANCASHIRE [59] Fowey Common, 31.3 (JDW per SMP). DOWN [H38] Larchfield House, 27.2 (Walsh *et al.*, 2011).

**Latest dates:** N. HAMPSHIRE [12] Farnborough, 9.12 (per M. Wall). E. KENT [15] Aylesham, 9.12 (3) (D. Shenton per IDF); Iwade, 9.12 (IC per IDF); Kingsgate, 11.12 (FS per IDF); Ramsgate, 9.12 (PM per IDF).

**Large single night counts:** W. CORNWALL [1] IOS: Longstone, St Mary's, 10.10 (136) (MWS). S. HAMPSHIRE [11] Southsea, 2.7 (133) (IRT). E. KENT [15] Beltinge, 16.5 (135) (BH); Dymchurch, 15.5 (1000+), 30.5 (300+) (JEO); Kingsgate, 13.5 (223), 2.7 (450), 3.7 (220), 4.7 (341) (FS per IDF); Ramsgate (three sites), 2.7 (800+), 3.7 (540+) (FS, PM, DS per IDF); Sandwich Bay Bird Observatory, 2.7 (c.7500), 3.7 (463) (Howe, 2010). HERTFORDSHIRE [20] Heartwood Forest, 2.7 (80) (J. Murray per CWP). E. SUFFOLK [25] Bawdsey, 14.5 (213+), 2.7 (486) (MJD). E. NORFOLK [27] Overstrand, 27.6 (127), 4.7 (158) (G. Bond per J. Wheeler). W. NORFOLK [28] Scolt Head NNR, 27.6 (c.1600), 2.7 (350) (N. Lawton). S.E. YORKSHIRE [61] Spurn (at two sites) 3.7 (502), 4.7 (590) (BRS per CHF).

**Large diurnal counts:** W. NORFOLK [28] Scolt Head NNR, 27.6 (10,000+ feeding on *Senecio jacobaea* flowers) (N. Lawton).

### PYRALIDAE

#### 1395 *Udea ferrugalis* (Hb.) [I][MC]

Records of this species from the Isles of Scilly are summarised in a separate section below but have otherwise been excluded from this species account. This is due to the presence of a resident



population of *U. ferrugalis* on the Scillies, and the records of large numbers of locally-bred adults being indistinguishable from records of an immigrant origin.

**Selected annual totals from fixed traps (200+):** W. CORNWALL [1] The Lizard – 498 at three sites (Tunmore, 2010). DORSET [9] Portland Bird Observatory – 515 (Cade, 2010).

**Latest dates:** W. SUSSEX [13] Pagham, 9.12 (IL). E. KENT [15] Pegwell, 14.12 (FS per IDF).

**Large single night counts:** W. CORNWALL [1] The Lizard, 25.10 (39) (MT).

**Most northerly records:** N. LANCASHIRE [60] Millhouses, 29.10 (TW per SMP). S.E. YORKSHIRE [61] Enthorpe, 5.8 (AA per CHF).

**Selected inland records:** SURREY [17] Lingfield, 29.10 (KEN per GAC). HERTFORDSHIRE [20] Ellenbrook, 28.7, 8.8 (A. Bristow per CWP); Ware, 21.10 (EG per CWP). MIDDLESEX [21] Barnet, 30.8 (RT per CWP); Hornsey, 3.8 (MA per CWP). HUNTINGDONSHIRE [31] Old Weston, 30.8 (K. Royles per BD).

**Scilly Isles [1] summary:** Longstone, St Mary's - 2009 annual total: 4723; monthly totals: Jan (1), Feb (0), Mar (0), Apr (5), May (80), Jun (152), Jul (151), Aug (603), Sep (251), Oct (3227), Nov (241), Dec (12) (Scott, 2010), peak nightly counts: 25.10 (258), 27.10 (546) (MWS); St Agnes, 10-20.10 (491, two traps) (DG).

### 1398 *Nomophila noctuella* (D. & S.) [I]

**Selected annual totals from fixed traps (500+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 5178 (Scott, 2010); The Lizard – 1266 at three sites (Tunmore, 2010). DORSET [9] Portland Bird Observatory – 2756 (Cade, 2010); West Bexington – 516 (Eden, 2010). ISLE OF WIGHT [10] Island total – 780 at six sites (Knill-Jones, 2010). E. KENT [15] Dungeness area – 1679+ at eight sites (Clancy, 2010); Isle of Thanet – 510 at five sites (Solly *et al.*, 2010); Sandwich Bay Bird Observatory – 512 (Howe, 2010). E. SUFFOLK [25] Bawdsey – 792 (Deans, 2010). WATERFORD [H6] Tramore Bay – 784 at four sites (Bryant & Walsh, 2010).

**Earliest dates:** W. KENT [16] Grain, 2.5 (AGJB per IDF).

**Latest dates:** DORSET [9] Weymouth, 4.12 (PH).

**Large single night counts:** W. CORNWALL [1] Church Cove, The Lizard, 6.9 (318), 7.9 (356) (MT); Longstone, St Mary's, 27.10 (326) (MWS). W. SUSSEX [13] Ferring, 23.8 (85) (THF); Pagham, 23.8 (104) (IL). E. KENT [15] Dungeness, 28.10 (92) (DW); Dymchurch, 20.7 (100+) (JEO); Greatstone, 29.8 (84) (BBa). E. SUFFOLK [25] Bawdsey, 24.8 (260) (MJD).

**Large diurnal counts:** E. CORNWALL [2] Penlee, 20.7 (350) (JCN per LACT). WATERFORD [H6] Great Newtown Head, 8.7 (100) (TB, in Walsh *et al.*, 2011).

**Most northerly records:** W. LOTHIAN [84] Linlithgow, 28.10 (M. Cubitt). FIFESHIRE [85] Anstruther, 1.9 (2), 4.9 (2) (AMS per DD); Guardbridge, 24.8 (R. Armstrong per DD). SHETLAND ISLANDS [112] Odraquoy, 28.10 (2) (Anon., 2009).

**Selected inland records:** NORTHAMPTONSHIRE [32] Woodnewton, 3.8 (N. Smith per JW). S.W. YORKSHIRE [63] Northowram, 2.9 (2) (A. Cockroft per CHF). MID-W. YORKSHIRE [64] Ripon, 14.8 (DDB per CHF). N.W. YORKSHIRE [65] Broken Brea, 26.8 (P. Kipling per CHF); Hutton Conyers, 30.8 – 30.10 (10) (CHF).

**Immature stages:** WICKLOW [H20] Cornagower East, 8.7, larva (AT, in Walsh *et al.*, 2011).

## PIERIDAE

### 1545 *Colias croceus* (Geoff.) Clouded Yellow [I][MC]

**Selected annual totals (30+):** E. SUSSEX [14] Elms Farm, Icklesham – 110+ (Hunter, 2010). E. KENT [15] Dungeness area – 90+ at three sites (per DW, PGA); Pegwell – 31 (Solly *et al.*, 2010).

**VC/County summaries:** HUNTINGDONSHIRE [31] 2.8 – 7.11, 17+ adults (per BD).

**Non-specific comments:** DORSET [9] Portland, recorded between 10.9 and 23.10 (Cade, 2010). ISLE OF WIGHT [10] 'A good year being seen in small numbers on most sunny days throughout summer and autumn' (Knill-Jones, 2010). S. HAMPSHIRE [11] Hayling Island, 'counts just into double figures from mid-September until early November' (Phillips & Johnson, 2010). E. SUSSEX [14] Elms Farm, Icklesham, 'three in July followed by 15 in August; one or two daily in September with a max. of 15 on 27<sup>th</sup>, and daily in October until 28<sup>th</sup>.' (Hunter, 2010). SUSSEX [13/14] 'A good season' (CRP). N. ESSEX [19] Crishall area, 23.5, 'a large immigration with ones and twos passing every few minutes over a period of several hours' (per CWP).

**Earliest dates:** S. DEVON [3] Prawle Point, 20.4 (VST).

**Latest dates:** ISLE OF WIGHT [10] No site, 10.12 (Knill-Jones, 2010).

**Large counts:** DORSET [9] Portland, Bill, 14.10 (20) (Cade, 2010). S. HAMPSHIRE [11] Gosport, 12.10 (33) (DJT); Southbourne, 10.10 (63) (M. Gibbons per DJT). E. SUSSEX [14] Birling Gap, 24.-25.9 (c.600) (per DJT & B. Banks); East Guldeford, 27.9 (85+), 29.9 (100+) (P. Bonham). Elms



Farm, Icklesham, 27.9 (15) (Hunter, 2010); Elms Farm, Icklesham – 110+ (Hunter, 2010).. E. KENT [15] Dungeness RSPB Reserve, 13.10 (16) (per PGA). S. ESSEX [18] Bradwell-on-sea, 26.9 (9) (Dewick, 2010).

# NYMPHALIDAE

## 1590 *Vanessa atalanta* (L.) Red Admiral [R][I]

**Selected annual totals (500+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 673 (Scott, 2010). S.E. YORKSHIRE [61] Spurn – 835 (Spence, 2010).

**VC/County summaries:** IRELAND [H1-40] March – December, 6807 adults in 31 counties (Walsh *et al.*, 2011). CORK [H3/4/5] 1581 adults (Walsh *et al.*, 2011). WEXFORD [H12] 886 adults (Walsh *et al.*, 2011). DOWN [H38] 1700 adults (Walsh *et al.*, 2011).

**Earliest dates** (active): W. CORNWALL [1] Hayle, c.21.1, 28.1 (GBH). S. HAMPSHIRE [11] Gosport, 14.1, 17.1 (per DJT); Lyndhurst, 13.1 (per DJT). WORCESTERSHIRE [37] Redditch, 16.1 (S. Whitehouse). S.E. YORKSHIRE [61] Spurn, 21.2 (Spence, 2010).

**Latest dates** (active): S. HAMPSHIRE [11] Gosport, 10.12 (2) (DJT). S. ESSEX [18] Bradwell-on-sea, 11.12 (Dewick, 2010). MONMOUTHSHIRE [35] Newport, 16.12, flying around shop (S. Williams).

**Large counts (50+):** S.E. YORKSHIRE [61] Spurn, 11.10 (60, flying south) (BRS).

## 1591 *Vanessa cardui* (L.) Painted Lady [I]

**Selected annual totals (950+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 1019 (Scott, 2010). E. SUSSEX [14] Peacehaven – 976 (Pratt, 2010). E. KENT [15] Dungeness area – 11723+ at two sites (Clancy, 2010). S.E. YORKSHIRE [61] Spurn – 5956 (Spence, 2010). WATERFORD [H6] Tramore Bay – 1765 (Bryant & Walsh, 2010).

**VC/County summaries:** HUNTINGDONSHIRE [31] 20.3, 9.5 – 8.11, 1940+ adults (per BD). IRELAND [H1-40] April – November, 68800+ in all 32 counties, including monthly totals of c.31000 in May and June (Walsh *et al.*, 2011).

**Non-specific comments:** DORSET [9] Portland, 'many thousands' moving north between 23-26.5 (Cade, 2010). ISLE OF WIGHT [10] 'Over a thousand per hour flying north at Porchfield on 28.5' (Knill-Jones, 2010). S. HAMPSHIRE [11] Hayling Island, 'shared in the massive influx in the second half of May' (Phillips & Johnson, 2010). N. HAMPSHIRE [12] Brighton Hill, 25.5 (43 in 15 minutes, 1430-1445 hrs., one every ten seconds at 1500hrs., eight in 90 seconds at 1615 hrs.) (AHD). E. SUSSEX [14] Elms Farm, Icklesham, 'A huge passage between 26 & 29 May but no organised counts were made.' (Hunter, 2010). E. KENT [15] Kingsdown Beach & St Margaret's at Cliffe, 'many tens of thousands recorded during the last ten days of May' (Jarman & Morris, 2010). S. ESSEX [18] Basildon, 23.5, 'a large immigration' (per CWP); Bradwell-on-sea, 'large numbers flying to the WNW on 24 & 25 May. A massive influx took place on 28 May when 50 flew through the garden in a six minute period. Exceptional numbers also present throughout second half of July with 235+ seen on one patch of thistles and 90 on a single *Buddleia* bush on 22.7' (Dewick, 2010). E. SUFFOLK [25] Bawdsey, 'a large influx involving hundreds of individuals.....in the period 22-26.5' (Deans, 2010); Minsmere, 'hundreds present by the end of May' (Harvey & Higgott, 2010). MERIONETHSHIRE [48] Near Harlech, 'flying north at a rate of 120 individuals per hour on 30.5' (Hicks & Bantock, 2010). SHETLAND ISLANDS [112] 'The influx which has been occurring further south has reached Shetland with records from many areas today (31.5)' (Anon., 2009).

**Earliest dates** (active): HUNTINGDONSHIRE [31] Ramsey Forty Foot, 20.3 (R. Shotbolt per BD).

**Latest dates** (active): ISLE OF WIGHT [10] Bonchurch, 16.11 (Knill-Jones, 2010).

General: Recorded throughout November with a couple of records in December (Fox, 2010).

**Large counts** (high counts in July/August probably relate to locally-bred adults): W. CORNWALL [1] Gwennap Head, 25.5 (400 passing per hour) (FTJ); IOS: Longstone, St Mary's, 23.5 (400+) (Scott, 2010); IOS: Telegraph, St Mary's, 24.5 (150) (Scott, 2010); nr. Port Isaac, from 25.7 ('several thousand') (Fox, 2010). ISLE OF WIGHT [10] Totland, 1-14.8 (100+ daily) (Knill-Jones, 2010). E. SUSSEX [14] Nr. Ditchling, 31.7 (c.250,000 in a field) (Fox, 2010); Elms Farm, Icklesham, 13.7 (1500+) (Hunter, 2010). S. HAMPSHIRE [11] Gosport, 26.5 (c.660) (DJT). W. SUSSEX [13] Church Norton, 26.5 (408+) (IL). E. SUSSEX [14] Newhaven, 25.5 (300+) (S. Teale). E. KENT [15] Dungeness Point, 25.5 (1800+), 26.5 (2750+), 28.5 (1700+) (per DW); Dungeness RSPB Reserve, 28.5 (1915) (per PGA); Folkestone, 25.5 (1000+) (IAR); nr. Hythe, 26.5, c.1000 from a boat offshore (Fox, 2010); Sandwich Bay Bird Observatory, 23.5 (1000+ flying north), 24.5 (2000+ flying north), 26.5 (c.3000), 28.5 (1000+), 21.7 (500+) (Howe, 2010). S. ESSEX [18] Bradwell-on-sea, 22.7 (325+) (Dewick, 2010). W. SUFFOLK [26] Bury St Edmunds, 24.5 (c.100 per hour passing north-west) (A. Parr). W. NORFOLK [28] Scolt Head NNR, 24.5 (18,000+ moving west), 1.8 (c.250,000) (N. Lawton). WARWICKSHIRE [38] Nr. Sherbourne, 29.5 (c.150) (DCGB). S.E.



YORKSHIRE [61] Spurn, 28.5 (175), 3.8 (500) (BRS). SHETLAND ISLANDS [112] Hermaness, 4.8 (100) (Anon., 2009); Outer Skerries, 1.6 (90) (Anon., 2009).

**Immature stages:** W. CORNWALL [1] Nr. Port Isaac, late June/early July, c. 500, 000 larvae in 7.5ha of fallow fields (20+ larvae per thistle plant) (Fox, 2010). S. ESSEX [18] Bradwell-on-sea, '.....the vast majority of larvae seen had been parasitized...' (Dewick, 2010). E. GLOUCESTERSHIRE [33] Nr. Swindon (two localities), late June/early July, 'thousands' of larvae (20+ larvae per thistle plant) (Fox, 2010). IRELAND [H1-40] 'Egg-laying and larvae were recorded in various counties as far north as Donegal, Londonderry and Antrim (Walsh *et al.*, 2011).

#### GEOMETRIDAE

1716 *Rhodometra sacraria* (L.) Vestal [I]

Total no. reported: 159

Distribution of records:

### ANNEX 2: SELECTED RECORDS OF COMMONER MIGRANT SPECIES IN 2009

Numerical summaries are not provided for the migrant butterfly species listed in Annex 2, or for the commoner immigrant species *Plutella xylostella*, *Udea ferrugalis*, *Nomophila noctuella*, *Agrotis ipsilon* or *Autographa gamma*. This is due to the lack of comprehensive records, or the generalised, non-specific nature (or absence) of reports, of these species from many sites. Significant records, site totals and general comments have been given for these species, and county summaries of the diurnal records of the migrant butterflies and *Macroglossum stellatarum* are provided where these have been made available in spreadsheet format.

It has also not been possible to allocate months of occurrence to all the records of Annex 2 species reported. It is therefore the case that the total given for the number of reported records is based on the figures given in the distributional table, this generally being greater than the sum of the monthly totals given within the lower table. Only records of adults are included in the tables and numerical totals and, whilst it is likely that these will not always be comprehensive, the geographical and chronological occurrence patterns presented should closely reflect the overall picture for each species where these are given.

#### Key to the symbols used within the distribution tables:

SW – South-west England (VC's 1-4).

CS – Central southern England (coastal) (VC's 5, 6, 9-11, 13).

SE – South-east England (coastal) (VC's 14-16, 18, 19).

EA – East Anglia & Lincolnshire (VC's 25-28, 53, 54).

SI – Southern England (inland) (VC's 7, 8, 12, 17, 20-24, 29-34).

W – Wales (VC's 35, 41-52).

CE – Central England (inland) (VC's 36-40, 53-58).

NE – North-east England (VC's 61, 62, 66-68).

NW – North-west England & the Isle of Man (VC's 59, 60, 63-65, 69-71).

S – Scotland (VC's 72-112).

I – Ireland (VC's H1-H40).



## YPONOMEUTIDAE

0464 *Plutella xylostella* (L.) [R][I]

**Selected annual totals from fixed traps (1000+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 1536 (Scott, 2010). DORSET [9] Portland Bird Observatory – 4091 (Cade, 2010). E. KENT [15] Dungeness area – 2049 at three sites (Clancy, 2010); Kingsdown Beach & St Margaret's at Cliffe – 1509 at two sites (Jarman & Morris, 2010); Isle of Thanet – 12195 at five sites (Solly *et al.*, 2010); Sandwich Bay Bird Observatory – 8739 (Howe, 2010). E. SUFFOLK [25] Bawdsey – 2388 (Deans, 2010); Landguard – 3759 (Odin, 2010). E. NORFOLK [27] Eccles-on-sea – 1211 (Bowman, 2010). S.E. YORKSHIRE [61] Spurn – 2425 at three sites (Spence, 2010). S. NORTHUMBERLAND [67] Tynemouth – 2395 (Tams, 2010).

**Earliest dates:** ISLE OF WIGHT [10] Bonchurch, 13.3 (JH). E. NORFOLK [27] Overstrand, 29.3 (5) (G. Bond per J. Wheeler). S. LANCASHIRE [59] Fowey Common, 31.3 (JDW per SMP). DOWN [H38] Larchfield House, 27.2 (Walsh *et al.*, 2011).

**Latest dates:** N. HAMPSHIRE [12] Farnborough, 9.12 (per M. Wall). E. KENT [15] Aylesham, 9.12 (3) (D. Shenton per IDF); Iwade, 9.12 (IC per IDF); Kingsgate, 11.12 (FS per IDF); Ramsgate, 9.12 (PM per IDF).

**Large single night counts:** W. CORNWALL [1] IOS: Longstone, St Mary's, 10.10 (136) (MWS). S. HAMPSHIRE [11] Southsea, 2.7 (133) (IRT). E. KENT [15] Beltinge, 16.5 (135) (BH); Dymchurch, 15.5 (1000+), 30.5 (300+) (JEO); Kingsgate, 13.5 (223), 2.7 (450), 3.7 (220), 4.7 (341) (FS per IDF); Ramsgate (three sites), 2.7 (800+), 3.7 (540+) (FS, PM, DS per IDF); Sandwich Bay Bird Observatory, 2.7 (c.7500), 3.7 (463) (Howe, 2010). HERTFORDSHIRE [20] Heartwood Forest, 2.7 (80) (J. Murray per CWP). E. SUFFOLK [25] Bawdsey, 14.5 (213+), 2.7 (486) (MJD). E. NORFOLK [27] Overstrand, 27.6 (127), 4.7 (158) (G. Bond per J. Wheeler). W. NORFOLK [28] Scolt Head NNR, 27.6 (c.1600), 2.7 (350) (N. Lawton). CHESHIRE [58] Birkenhead, 2.7 (160) (G. Jones per S. Palmer). S.E. YORKSHIRE [61] Spurn (at two sites) 3.7 (502), 4.7 (590) (BRS per CHF).

**Large diurnal counts:** W. NORFOLK [28] Scolt Head NNR, 27.6 (10,000+ feeding on *Senecio jacobaea* flowers) (N. Lawton).

## PYRALIDAE

1395 *Udea ferrugalis* (Hb.) [I][MC]

Records of this species from the Isles of Scilly are summarised in a separate section below but have otherwise been excluded from this species account. This is due to the presence of a resident population of *U. ferrugalis* on the Scillies, and the records of large numbers of locally-bred adults being indistinguishable from records of an immigrant origin.

**Selected annual totals from fixed traps (200+):** W. CORNWALL [1] The Lizard – 498 at three sites (Tunmore, 2010). DORSET [9] Portland Bird Observatory – 515 (Cade, 2010).

**Latest dates:** W. SUSSEX [13] Pagham, 9.12 (IL). E. KENT [15] Pegwell, 14.12 (FS per IDF).

**Large single night counts:** W. CORNWALL [1] The Lizard, 25.10 (39) (MT).

**Most northerly records:** N. LANCASHIRE [60] Millhouses, 29.10 (TW per SMP). S.E. YORKSHIRE [61] Enthorpe, 5.8 (AA per CHF).

**Selected inland records:** SURREY [17] Lingfield, 29.10 (KEN per GAC). HERTFORDSHIRE [20] Ellenbrook, 28.7, 8.8 (A. Bristow per CWP); Ware, 21.10 (EG per CWP). MIDDLESEX [21] Barnet, 30.8 (RT per CWP); Hornsey, 3.8 (MA per CWP). HUNTINGDONSHIRE [31] Old Weston, 30.8 (K. Royles per BD).

**Scilly Isles [1] summary:** Longstone, St Mary's - 2009 annual total: 4723; monthly totals: Jan (1), Feb (0), Mar (0), Apr (5), May (80), Jun (152), Jul (151), Aug (603), Sep (251), Oct (3227), Nov (241), Dec (12) (Scott, 2010), peak nightly counts: 25.10 (258), 27.10 (546) (MWS); St Agnes, 10-20.10 (491, two traps) (DG).

1398 *Nomophila noctuella* (D. & S.) [I]

**Selected annual totals from fixed traps (500+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 5178 (Scott, 2010); The Lizard – 1266 at three sites (Tunmore, 2010). DORSET [9] Portland Bird Observatory – 2756 (Cade, 2010); West Bexington – 516 (Eden, 2010). ISLE OF WIGHT [10] Island total – 780 at six sites (Knill-Jones, 2010). E. KENT [15] Dungeness area – 1679+ at eight sites (Clancy, 2010); Isle of Thanet – 510 at five sites (Solly *et al.*, 2010); Sandwich Bay Bird Observatory – 512 (Howe, 2010). E. SUFFOLK [25] Bawdsey – 792 (Deans, 2010). WATERFORD [H6] Tramore Bay – 784 at four sites (Bryant & Walsh, 2010).

**Earliest dates:** W. KENT [16] Grain, 2.5 (AGJB per IDF).

**Latest dates:** DORSET [9] Weymouth, 4.12 (PH).

**Large single night counts:** W. CORNWALL [1] Church Cove, The Lizard, 6.9 (318), 7.9 (356) (MT); Longstone, St Mary's, 27.10 (326) (MWS). W. SUSSEX [13] Pagham, 23.8 (104) (IL). E.



KENT [15] Dungeness, 28.10 (92) (DW); Dymchurch, 20.7 (100+) (JEO); Greatstone, 29.8 (84) (BBa). E. SUFFOLK [25] Bawdsey, 24.8 (260) (MJD).

**Large diurnal counts:** E. CORNWALL [2] Penlee, 20.7 (350) (JCN per LACT). WATERFORD [H6] Great Newtown Head, 8.7 (100) (TB, in Walsh *et al.*, 2011).

**Most northerly records:** W. LOTHIAN [84] Linlithgow, 28.10 (M. Cubitt). FIFESHIRE [85] Anstruther, 1.9 (2), 4.9 (2) (AMS per DD); Guardbridge, 24.8 (R. Armstrong per DD). SHETLAND ISLANDS [112] Odraquoy, 28.10 (2) (Anon., 2009).

**Selected inland records:** NORTHAMPTONSHIRE [32] Woodnewton, 3.8 (N. Smith per JW). S.W. YORKSHIRE [63] Northowram, 2.9 (2) (A. Cockroft per CHF). MID-W. YORKSHIRE [64] Ripon, 14.8 (DDB per CHF). N.W. YORKSHIRE [65] Broken Brea, 26.8 (P. Kipling per CHF); Hutton Conyers, 30.8 – 30.10 (10) (CHF).

**Immature stages:** WICKLOW [H20] Cornagower East, 8.7, larva (AT, in Walsh *et al.*, 2011).

## PIERIDAE

### 1545 *Colias croceus* (Geoff.) Clouded Yellow [I][MC]

**Selected annual totals (30+):** E. SUSSEX [14] Elms Farm, Icklesham – 110+ (Hunter, 2010). E. KENT [15] Dungeness area – 90+ at three sites (per DW, PGA); Pegwell – 31 (Solly *et al.*, 2010).

**VC/County summaries:** HUNTINGDONSHIRE [31] 2.8 – 7.11, 17+ adults (per BD).

**Non-specific comments:** DORSET [9] Portland, recorded between 10.9 and 23.10 (Cade, 2010). ISLE OF WIGHT [10] 'A good year being seen in small numbers on most sunny days throughout summer and autumn' (Knill-Jones, 2010). S. HAMPSHIRE [11] Hayling Island, 'counts just into double figures from mid-September until early November' (Phillips & Johnson, 2010). E. SUSSEX [14] Elms Farm, Icklesham, 'three in July followed by 15 in August; one or two daily in September with a max. of 15 on 27<sup>th</sup>, and daily in October until 28<sup>th</sup>.' (Hunter, 2010). SUSSEX [13/14] 'A good season' (CRP). N. ESSEX [19] Crishall area, 23.5, 'a large immigration with ones and twos passing every few minutes over a period of several hours' (per CWP).

**Earliest dates:** S. DEVON [3] Prawle Point, 20.4 (VST).

**Latest dates:** ISLE OF WIGHT [10] No site, 10.12 (Knill-Jones, 2010).

**Large counts:** DORSET [9] Portland, Bill, 14.10 (20) (Cade, 2010). S. HAMPSHIRE [11] Gosport, 12.10 (33) (DJT); Southbourne, 10.10 (63) (M. Gibbons per DJT). E. SUSSEX [14] Birling Gap, 24.-25.9 (c.600) (per DJT & B. Banks); East Guldeford, 27.9 (85+), 29.9 (100+) (P. Bonham). Elms Farm, Icklesham, 27.9 (15) (Hunter, 2010); Elms Farm, Icklesham – 110+ (Hunter, 2010).. E. KENT [15] Dungeness RSPB Reserve, 13.10 (16) (per PGA). S. ESSEX [18] Bradwell-on-sea, 26.9 (9) (Dewick, 2010).

## NYMPHALIDAE

### 1590 *Vanessa atalanta* (L.) Red Admiral [R][I]

**Selected annual totals (500+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 673 (Scott, 2010). S.E. YORKSHIRE [61] Spurn – 835 (Spence, 2010).

**VC/County summaries:** IRELAND [H1-40] March – December, 6807 adults in 31 counties (Walsh *et al.*, 2011). CORK [H3/4/5] 1581 adults (Walsh *et al.*, 2011). WEXFORD [H12] 886 adults (Walsh *et al.*, 2011). DOWN [H38] 1700 adults (Walsh *et al.*, 2011).

**Earliest dates (active):** W. CORNWALL [1] Hayle, c.21.1, 28.1 (GBH). S. HAMPSHIRE [11] Gosport, 14.1, 17.1 (per DJT); Lyndhurst, 13.1 (per DJT). WORCESTERSHIRE [37] Redditch, 16.1 (S. Whitehouse). S.E. YORKSHIRE [61] Spurn, 21.2 (Spence, 2010).

**Latest dates (active):** S. HAMPSHIRE [11] Gosport, 10.12 (2) (DJT). S. ESSEX [18] Bradwell-on-sea, 11.12 (Dewick, 2010). MONMOUTHSHIRE [35] Newport, 16.12, flying around shop (S. Williams).

**Large counts (50+):** S.E. YORKSHIRE [61] Spurn, 11.10 (60, flying south) (BRS).

### 1591 *Vanessa cardui* (L.) Painted Lady [I]

**Selected annual totals (950+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 1019 (Scott, 2010). E. SUSSEX [14] Peacehaven – 976 (Pratt, 2010). E. KENT [15] Dungeness area – 11723+ at two sites (Clancy, 2010). S.E. YORKSHIRE [61] Spurn – 5956 (Spence, 2010). WATERFORD [H6] Tramore Bay – 1765 (Bryant & Walsh, 2010).

**VC/County summaries:** HUNTINGDONSHIRE [31] 20.3, 9.5 – 8.11, 1940+ adults (per BD). IRELAND [H1-40] April – November, 68800+ in all 32 counties, including monthly totals of c.31000 in May and June (Walsh *et al.*, 2011).

**Non-specific comments:** DORSET [9] Portland, 'many thousands' moving north between 23-26.5 (Cade, 2010). ISLE OF WIGHT [10] 'Over a thousand per hour flying north at Porchfield on 28.5'





# SOCIETY MATTERS



## AES ANNUAL REPORT TO MEMBERS YEAR ENDED 31st DECEMBER 2011

*This report was approved by members at the AGM at the Manchester Museum on 28th April.*

### MEMBERSHIP

The total membership of the Society at 31st December 2011 was 1396, a decrease of 4.5% over the previous year. Membership of our junior section, the Bug Club, grew by 3%.

### PUBLICATIONS

Our bimonthly periodicals – the *AES Bulletin*, *Entomologist's Record* and the *Bug Club Magazine* – and the thrice annual *Invertebrate Conservation News* were all published as usual. The Society is grateful to those members who contributed so many interesting and diverse articles, especially those whose contributions to the *Bug Club Magazine* continue to inspire the entomologists of the future – a major aim of the Society.

The Wants & Exchanges List was phased out during 2011 and replaced with the electronic AES Newsletter, which has expanded content and is intended to be produced on a monthly basis. This will provide a more timely service to all members while also saving money for the Society. The Newsletter can be printed off and posted to the minority of members who do not have access to email.

Two books in the series *Tales and Truths about Garden Minibeasts* were published during the year. The AES published *Eddie the Earthworm Saves the Day* in collaboration with the Earthworm Society of Britain, which is based at London's Natural History Museum, and a further volume, *Crystal, the Small Miracle* was published independently by Butterfly Conservation. We are grateful once again to the author, Mrs Sonia Copeland Bloom, for shouldering the production costs of the first edition of these books.

### EVENTS

Our 2011 Members' Day was held at the Butterfly World project in Hertfordshire and was once again well attended. The 4th Annual Leonard Tesch lecture was delivered by Dr Martin Hall, of the Natural History Museum, London, who among other things brought with him some maggots in a drainpipe!

Our second Young Entomologists' Day at Oxford was a success and will be repeated in 2012 (please see the accompanying Bug Club annual report). Other events included our ever popular annual autumn visit to the Oxford University Museum; the annual AES Exhibition at Kempton Park; and a field event at Dinton Pastures Country Park organised with the help of members of the British Entomological and Natural History Society. An increased number of events were held locally by AES members, and to this end we now have three regional groups, based in Bangor, Gwynedd; the Wilts & Oxon group, run by



AMATEUR ENTOMOLOGISTS' SOCIETY

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 DECEMBER 2011

EXPENDITURE  
GENERAL FUND

2010 £	2011	
<u>Journals</u>		
34180 Journal printing	45374	
7566 Journal Despatch	13685	
<u>815</u> Wants & Exchange Lists	<u>689</u>	
42561	59748	59748
<u>Membership Services</u>		
10305 Exhibitions	8701	
1073 Stock Purchased	1119	
0 Decrease in value of Stock	1056	
<u>4080</u> Registrars Fees & Expenses	<u>2720</u>	
15458	13596	13596
<u>Adminstration</u>		
2226 General Admin. Expenses	2772	
1705 Council Meetings/AGM	1039	
0 Conservation	239	
3931	4050	<u>4050</u>
61950 Total Expenses		77394
<u>2087</u> Surplus Income to General Fund		<u>0</u>
64037		77394
	=====	

INCOME

2010 £	2011	
<u>Membership Income</u>		
39403 Subscriptions	37048	
9948 Donations	22614	
<u>34</u> Wants & Exchange Lists	<u>32</u>	
49385	59694	59694
<u>Other Income</u>		
1381 Sale of Goods	1787	
1745 Advertising Revenue	1090	
10914 Exhibitions	10482	
46 Investment Income	778	
<u>566</u> Increase in value of stock	<u>0</u>	
<u>14652</u>	<u>14137</u>	<u>14137</u>
64037		73831
<u>0</u> Deficit to General Fund		<u>3563</u>
64037		77394
	=====	

PUBLICATIONS TRADING ACCOUNT

2010	2011
1505 Editorial & Misc Expenses	1882
0 Printing Publications	11334
<u>2269</u> Decrease in Stock Value	<u>0</u>
3774	13216
<u>0</u> Surplus to Publications Fund	<u>5205</u>
3774	18421

2010	2011
2571 Proceeds of Sale	12369
1042 Investment Income	1291
<u>0</u> Increase in Value Of Stock	<u>4761</u>
3613	18421
<u>161</u> Deficit to Publications Fund	<u>0</u>
3774	18421

CROW & HAMMOND FUND

2010	2011
200 Awards	100
<u>386</u> Promotional Leaflets	<u>0</u>
586	100
<u>3461</u> Surplus to fund	<u>0</u>
<u>4047</u>	<u>100</u>

2010	2011
<u>4047</u> Investment Income	<u>-1098.36</u>
4047	-1098.36
<u>0</u> Deficit to Fund	<u>1198.36</u>
4047	100

DIRECTORY FOR ENTOMOLOGISTS PUBLICATION FUND

2010	2011
<u>0</u> None	<u>0</u>
0	0
<u>1</u> Surplus to Fund	<u>0</u>
1	0

2010	2011
0 Advertising	0
<u>1</u> Interest	<u>0</u>
1	0
<u>0</u> Deficit to Fund	<u>0</u>
1	0

ANSORGE FUND

2010	2011
0 Investment deficit	0
<u>180</u> Ansorge Award	<u>140</u>
180	140
<u>0</u> Surplus to fund	<u>0</u>
<u>180</u>	<u>140</u>

2010	2011
<u>98</u> Investment Income	<u>65</u>
98	65
<u>82</u> Deficit To Fund	<u>75</u>
<u>180</u>	<u>140</u>

OPAL FUNDING

<u>2588</u> Equipment	<u>63</u>
2588	63
<u>0</u> Surplus to Fund	<u>0</u>
<u>2588</u>	<u>63</u>

<u>0</u> Donations	<u>0</u>
0	0
<u>0</u> Deficit to Fund	<u>63</u>
0	<u>63</u>

REDWING TRUST

<u>0</u> Equipment	<u>330</u>
0	330
<u>0</u> Surplus to Fund	<u>6670</u>
<u>0</u>	<u>7000</u>

<u>0</u> Donations	<u>7000</u>
0	7000
<u>0</u> Deficit to Fund	<u>0</u>
0	<u>7000</u>

BALANCE SHEET AS AT 31 DECEMBER

2010 £	2011	
GENERAL FUND		
379 Balance at 1st Jan	2466	
<u>2087</u> Add Surplus income for year	<u>-3563</u>	
2466 (-deficit) for year	-1097	-1097
0 Redwing Trust	6670	
63 Opal Funding	0	
352 Directory Fund	352	
7856 Life Membership Fund	7856	
1021 Ansorge Award Fund	946	
89804 Crow & Hammond Trust Fund	88606	
<u>80707</u> Publications Fund:	<u>85912</u>	
179803	190342	<u>190342</u>
Creditors:		
7881 Advanced Subscriptions	9842	
0 Uncleared cheques	0	
<u>7881</u>	<u>9842</u>	<u>9842</u>
<u>190150</u>	<u>199087</u>	

2010 £	2011	
INVESTMENT VALUATION		
0 Artemis	4982	
0 CoFunds	67287	
12387 Barclays share account	12760	
59534 CAF Gold a/c	14626	
11825 M&G Charifund	11195	
19774 NSB Investment a/c	19814	
18261 CAF Growth Fund	16747	
<u>9621</u> Lazard Diversifield Fund	<u>9750</u>	
131402	157161	157161
CURRENT ASSETS:		
1 Office Equipment	1	
5777 Goods	4721	
0 Debtors	0	
27212 Cash at Bank current a/c	6685	
<u>25758</u> Publications Stocks	<u>30519</u>	
<u>58748</u>	<u>41926</u>	<u>41926</u>
<u>190150</u>	<u>199087</u>	



(Knill-Jones, 2010). S. HAMPSHIRE [11] Hayling Island, ‘shared in the massive influx in the second half of May’ (Phillips & Johnson, 2010). N. HAMPSHIRE [12] Brighton Hill, 25.5 (43 in 15 minutes, 1430-1445 hrs., one every ten seconds at 1500hrs., eight in 90 seconds at 1615 hrs.) (AHD). E. SUSSEX [14] Elms Farm, Icklesham, ‘A huge passage between 26 & 29 May but no organised counts were made.’ (Hunter, 2010). E. KENT [15] Kingsdown Beach & St Margaret’s at Cliffe, ‘many tens of thousands recorded during the last ten days of May’ (Jarman & Morris, 2010). S. ESSEX [18] Basildon, 23.5, ‘a large immigration’ (per CWP); Bradwell-on-sea, ‘large numbers flying to the WNW on 24 & 25 May. A massive influx took place on 28 May when 50 flew through the garden in a six minute period. Exceptional numbers also present throughout second half of July with 235+ seen on one patch of thistles and 90 on a single *Buddleia* bush on 22.7’ (Dewick, 2010). E. SUFFOLK [25] Bawdsey, ‘a large influx involving hundreds of individuals.....in the period 22-26.5’ (Deans, 2010); Minsmere, ‘hundreds present by the end of May’ (Harvey & Higgott, 2010). MERIONETHSHIRE [48] Near Harlech, ‘flying north at a rate of 120 individuals per hour on 30.5’ (Hicks & Bantock, 2010). SHETLAND ISLANDS [112] ‘The influx which has been occurring further south has reached Shetland with records from many areas today (31.5)’ (Anon., 2009). **Earliest dates** (active): HUNTINGDONSHIRE [31] Ramsey Forty Foot, 20.3 (R. Shotbolt per BD). **Latest dates** (active): ISLE OF WIGHT [10] Bonchurch, 16.11 (Knill-Jones, 2010). **General:** Recorded throughout November with a couple of records in December (Fox, 2010). **Large counts** (high counts in July/August probably relate to locally-bred adults): W. CORNWALL [1] Gwennap Head, 25.5 (400 passing per hour) (FTJ); IOS: Longstone, St Mary’s, 23.5 (400+) (Scott, 2010); IOS: Telegraph, St Mary’s, 24.5 (150) (Scott, 2010); nr. Port Isaac, from 25.7 (‘several thousand’) (Fox, 2010). ISLE OF WIGHT [10] Totland, 1-14.8 (100+ daily) (Knill-Jones, 2010). E. SUSSEX [14] Nr. Ditchling, 31.7 (c.250,000 in a field) (Fox, 2010); Elms Farm, Icklesham, 13.7 (1500+) (Hunter, 2010). S. HAMPSHIRE [11] Gosport, 26.5 (c.660) (DJT). W. SUSSEX [13] Church Norton, 26.5 (408+) (IL). E. SUSSEX [14] Newhaven, 25.5 (300+) (S. Teale). E. KENT [15] Dungeness Point, 25.5 (1800+), 26.5 (2750+), 28.5 (1700+) (per DW); Dungeness RSPB Reserve, 28.5 (1915) (per PGA); Folkestone, 25.5 (1000+) (IAR); nr. Hythe, 26.5, c.1000 from a boat offshore (Fox, 2010); Sandwich Bay Bird Observatory, 23.5 (1000+ flying north), 24.5 (2000+ flying north), 26.5 (c.3000), 28.5 (1000+), 21.7 (500+) (Howe, 2010). S. ESSEX [18] Bradwell-on-sea, 22.7 (325+) (Dewick, 2010). W. SUFFOLK [26] Bury St Edmunds, 24.5 (c.100 per hour passing north-west) (A. Parr). W. NORFOLK [28] Scolt Head NNR, 24.5 (18,000+ moving west), 1.8 (c.250,000) (N. Lawton). WARWICKSHIRE [38] Nr. Sherbourne, 29.5 (c.150) (DCGB). S.E. YORKSHIRE [61] Spurn, 28.5 (175), 3.8 (500) (BRS). SHETLAND ISLANDS [112] Hermaness, 4.8 (100) (Anon., 2009); Outer Skerries, 1.6 (90) (Anon., 2009). **Immature stages:** W. CORNWALL [1] Nr. Port Isaac, late June/early July, c. 500, 000 larvae in 7.5ha of fallow fields (20+ larvae per thistle plant) (Fox, 2010). S. ESSEX [18] Bradwell-on-sea, ‘.....the vast majority of larvae seen had been parasitized...’ (Dewick, 2010). E. GLOUCESTERSHIRE [33] Nr. Swindon (two localities), late June/early July, ‘thousands’ of larvae (20+ larvae per thistle plant) (Fox, 2010). IRELAND [H1-40] ‘Egg-laying and larvae were recorded in various counties as far north as Donegal, Londonderry and Antrim (Walsh *et al.*, 2011).

GEOMETRIDAE

1716 *Rhometra sacraria* (L.) Vestal [I]

Total no. reported: 159

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
38	68	12	4	2	2	-	-	3	-	30

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	3	-	1	10	5	124	13	-

**Selected annual totals from fixed traps (10+):** W. CORNWALL [1] IOS: Longstone, St Mary’s – 12 (Scott, 2010).

**Earliest dates:** S. HAMPSHIRE [11] Hayling Island, May (1) (Phillips & Johnson, 2010). E. NORFOLK [27] Hapton, 8.5 (S. Newson per J. Wheeler). W. NORFOLK [28] Swanton Morley, 19.5 (RJS per J. Wheeler).

**Latest dates:** DORSET [9] Weymouth, 27.11 (PH, in Davey, 2010).



**Large single night counts:** WICKLOW [H20] Cronykeery, 30.10 (13) (Walsh *et al.*, 2011).  
**Most northerly records:** N. LANCASHIRE [60] Millhouses, 28.10 (TW per SMP). S.W. YORKSHIRE [63] West Melton, 5.7 (HEB per CHF). N.W. YORKSHIRE [65] Hutton Conyers, 28.10 (CHF).  
**Selected inland records:** E. GLOUCESTERSHIRE [33] Stroud, 23.9 (MM per RGG). S.W. YORKSHIRE [63] West Melton, 5.7 (HEB per CHF). N.W. YORKSHIRE [65] Hutton Conyers, 28.10 (CHF).

1720 *Orthonama obstipata* (Fab.) Gem [I][MC?]

**Total no. reported:** 81  
**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
15	20	33	9	1	-	1	1	-	1	-

**Months of occurrence:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	1	-	8	15	2	48	7	-

**Selected annual totals from fixed traps (10+):** E. KENT [15] Dungeness area – 16 at fourteen sites (Clancy, 2010).  
**Earliest dates:** W. CORNWALL [1] IOS: Longstone, St Mary’s, May (1) (Scott, 2010).  
**Latest dates:** S. DEVON [3] Uplyme, 16.11 (AK). E. KENT [15] Kingsgate, 17.11 (FS per IDF).  
**Most northerly records:** S.E. YORKSHIRE [61] Muston, 27.10 (PQW per CHF). SHETLAND ISLANDS [112] Virkie, 29.7 (Anon., 2009).  
**Selected inland records:** SURREY [17] Nutfield, 26.10 (P.A. Cordell per GAC). WARWICKSHIRE [38] Charlecote, 30.8 (DCGB).

SPHINGIDAE

1972 *Agrius convolvuli* (L.) Convolvulus Hawk-moth [I][In]

**Total no. reported:** 242  
**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
36	73	38	37	2	7	2	20	4	19	4

**Months of occurrence:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	-	2	5	82	144	5	-	-

**Selected annual totals from fixed traps (10+):** DORSET [9] Portland Bird Observatory – 17 (Cade, 2010). E. SUFFOLK [25] Bawdsey – 10 (Deans, 2010). BERWICKSHIRE [81] Eyemouth – 9 (at *Petunia* spp. flowers).  
**Earliest dates:** DORSET [9] Portland Bird Observatory, June (1) (Cade, 2010). W. SUSSEX [13] Brighton, 27.6 (C. Hastings per CRP).  
**Latest dates:** E. SUSSEX [14] Rye Harbour, 21.10 (JHC per CRP). E. NORFOLK [27] Walcott, 28.10 (A. Grant per J. Wheeler).  
**Large single night counts:** W. CORNWALL [1] Coverack, 7.9 (4) (Tunmore, 2010); ‘Scilly Isles’, late August (7 in a Heath trap) (A. Cleave per AHD). E. SUFFOLK [25] Bawdsey, 19.9 (4) (MJD). S.E. YORKSHIRE [61] Easington, 30.8 (5) (MFS per CHF).  
**Most northerly records:** CAITHNESS [109] Hill of Rattar, 1.9, 13.9 (N. Money); Hopefield, 9.9 (N. Money). OUTER HEBRIDES [110] South Uist, 11.9 (per CJ). SHETLAND ISLANDS [112] Aith, 5/6.9 (Anon., 2009); Aywick, 3.9, 5/6.9 (Anon., 2009); Mid Yell, 5/6.9 (3) (Anon., 2009).  
**Selected inland records:** SURREY [17] Nutfield, 1.9 (P.A. Cordell per GAC). W. GLOUCESTERSHIRE [34] Culkerton, 18.9 (MO per RGG). WARWICKSHIRE [38] Leamington Spa, 6.9 (R. Moffatt per DCGB); Southam, 29.8 (R. Smith per DCGB). S. LANCASHIRE [59] Burnley, 8.9 (DA per SMP); Longton, Preston, 27.9 (R. Boydell per SMP). N.W. YORKSHIRE [65] High Batts NR, 10.9 (R. Adams per CHF).



1984 *Macroglossum stellatarum* (L.) Humming-bird Hawk-moth [I]

Minimum no. reported: 837

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
85	103	156	112	86	16	20	36	48	2	173

Months of occurrence (active):

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	1	4	27	171	295	169	95	42	4	-

**Selected annual totals (30+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 38 (Scott, 2010). E. KENT [15] Dungeness area – 58 (Clancy, 2010).

**VC/County summaries:** HERTFORDSHIRE [20] 25.6 – 3.9, 9 adults (per CWP). NORFOLK [27/28] 10.4 – 26.10, 76+ adults (per J. Wheeler). HUNTINGDONSHIRE [31] 14.6 – 8.10, 25+ adults (per BD). GLOUCESTERSHIRE [33/34] 30.5 – 26.9, 9 adults (per RGG).

**Non-specific comments:** DORSET [9] Portland, 'recorded in very small numbers between 5.6 & 4.10' (Cade, 2010).

**Earliest dates (active):** E. KENT [15] Lydd, 11.4 (EC). E. NORFOLK [27] Edgefield Green, 10.4 (I. Keymer per J. Wheeler). S. LANCASHIRE [59] Ormskirk, 12.4 (D. Baldwin per SMP). WEXFORD [H12] Coolcotts, 22.3 (Walsh *et al.*, 2011).

**Latest dates (active):** S. DEVON [3] Uplyme, 5.11 (AK). DORSET [9] West Bexington, November (1) (Eden, 2010). E. KENT [15] Dungeness, 3.11 (DW). S. ESSEX [18] Bradwell-on-sea, 30.10 (Dewick, 2010). S. LANCASHIRE [59] Leigh, 8.11 (L. Haines per SMP).

**Large counts:** W. CORK [H3] Dursey Island, 30.5 (7) (D. Scott, in Walsh *et al.*, 2011). DOWN [H38] Copeland Islands, 2.6 (6), 4.6 (6) (Walsh *et al.*, 2011).

**Most northerly records:** WEST LOTHIAN [84] Winchburgh, 25.6 (GF per M. Cubitt). FIFESHIRE [85] St Andrews, 6.7 (G. Strugnell per DD).

**Immature stages/Evidence of breeding:** W. CORNWALL [1] Trewellard, 12.7, larva (J. Foster). SUSSEX [13/14] 'Summertime breeding along the coast' (per CRP). DONEGAL [H34/35] Murvagh, 3.8, larva (F. Smyth, in Walsh *et al.*, 2011).

NOCTUIDAE

2091 *Agrotis ipsilon* (Hufn.) Dark Sword-grass [I]

**Selected annual totals from fixed traps (200+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 206 (Scott, 2010). DORSET [9] Portland Bird Observatory – 319 (Cade, 2010). E. SUSSEX [14] Elms Farm, Icklesham – 316 (Hunter, 2010). E. KENT [15] Dungeness area – 658 at fourteen sites (Clancy, 2010). E. SUFFOLK [25] Bawdsey – 533 (Deans, 2010).

**Earliest dates:** E. SUSSEX [14] Eastbourne, 1.3 (JHC). E. SUFFOLK [25] Bawdsey, 15.3 (MJD). WATERFORD [H6] Tramore, 12.3 (TB, in Walsh *et al.*, 2011).

**Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, December (1) (Scott, 2010). E. KENT [15] Dungeness area, December (1) (Clancy, 2010). E. SUFFOLK [25] Bawdsey, 2.12 (MJD).

**Large single night counts:** E. KENT [15] Dungeness, 12.8 (35 at two sites) (PGA, KR). E. SUFFOLK [25] Bawdsey, 2.8 (22), 12.8 (30) (MJD). W. NORFOLK [28] Scolt Head Island, 4.8 (27), 5.8 (27) (N. Lawton per J. Wheeler).

2119 *Peridroma saucia* (Hb.) Pearly Underwing [I]

Total no. reported: 432

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
102	143	88	48	15	5	6	5	4	2	14

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	2	-	1	16	14	15	72	170	125	12	2



**Selected annual totals from fixed traps (20+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 39 (Scott, 2010); The Lizard – 32 at three sites (Tunmore, 2010). DORSET [9] Portland Bird Observatory – 63 (Cade, 2010). E. KENT [15] Dungeness area – 26 at fourteen sites (Clancy, 2010); Isle of Thanet – 39 at five sites (Solly *et al.*, 2010). E. SUFFOLK [25] Bawdsey – 30 (Deans, 2010). **Earliest dates:** W. CORNWALL [1] Cury, 28.4 (FJT); IOS: Longstone, St Mary's, February (2) (Scott, 2010). **Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, December (1) (Scott, 2010). E. KENT [15] Dungeness, 1.12 (KR). **Large single night counts:** DORSET [9] Durlston, 10.10 (9) (MJD *et al.*). **Most northerly records:** CAITHNESS [109] Hill of Rattar, 28.10 (N. Money) SHETLAND ISLANDS [112] Scatness, 16.9 (Anon., 2009). **Selected inland records:** SURREY [17] Nutfield, 11.9 (P.A. Cordell per GAC). Reigate, 23.10 (RAC). BEDFORDSHIRE [30] Eaton Bray, 19.9, 20.9 (MGT). HUNTINGDONSHIRE [31] Earith, 7.8 (D. Griffiths per BD); Holmewood Hall, 9.8 (P. Horsenail per BD); Orton Waterville, 9.8 (J. Newman per BD). NORTHAMPTONSHIRE [32] Pitsford Res., 11.8, 23.8 (J. Wallace per JW); Storefield Wood, 31.10 (JW). E. GLOUCESTERSHIRE [33] Thrupp, 4.9 (PDJH per RGG). W. GLOUCESTERSHIRE [34] Culkerton, 18.9 (MO per RGG). CHESHIRE [58] Alsager, 22.10, 27.10 (M. Dale per S. Palmer); Cheadle Hulme, 21.9 (G. Lightfoot per S. Palmer). S.W. YORKSHIRE [63] Huddersfield, 2.10 (R. Higson per CHF).

2195 *Mythimna vitellina* (Hb.) Delicate [I][MC]  
Total no. reported: 247  
Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
61	148	36	1	-	-	-	1	-	-	-

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	-	13	40	16	38	138	2	-

**Selected annual totals from fixed traps (20+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 49 (Scott, 2010). **Earliest dates:** S. DEVON [3] Uplyme, 12.6 (AK). **Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, November (1) (Scott, 2010). E. KENT [15] Dymchurch, 1.11 (JEO). **Large single night counts:** DORSET [9] Durlston, 30.10 (5) (JHC); Frampton, 26.7 (8), 28.7 (12) (AHW, in Davey, 2010); Studland, 23.10 (6) (JHC). [A record of seven *vitellina* from Langton Matravers [9] on 26.10 (DCGB) published in Davey (2010) is erroneous.] **Most northerly records:** S. NORTHUMBERLAND [67] Tynemouth, 6.10 (TJT).

2203 *Mythimna unipuncta* (Haw.) White-speck [I][MC]

Records of this species from the Isles of Scilly are summarised in a separate section below but have otherwise been excluded from this account. This is due to the presence of a resident population of *M. unipuncta* on the Scillies, and the records of large numbers of locally-bred adults being indistinguishable from records of an immigrant origin.

Total no. reported: 57  
Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
10	42	2	2	-	-	-	-	-	1	-

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	1	-	1	1	2	43	5	-

**Selected annual totals from fixed traps (10+):** DORSET [9] Portland Bird Observatory – 18 (Cade, 2010). **Earliest dates:** OUTER HEBRIDES [110] South Uist, 30.5 (CJ). **Latest dates:** W. SUSSEX [13] Ferring, 20.11 (THF per CRP).



**Most northerly records:** OUTER HEBRIDES [110] South Uist, 30.5 (CJ).

**Scilly Isles [1] summary:** Longstone, St Mary's - 2009 annual total: 1073; monthly totals: Jan (3), Feb (0), Mar (0), Apr (0), May (3), Jun (5), Jul (2), Aug (58), Sep (11), Oct (351), Nov (568), Dec (72) (Scott, 2010).

**2385 *Spodoptera exigua* (Hb.) Small Mottled Willow [I][In]**

**Total no. reported: 405**

**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
63	108	160	49	14	3	2	1	2	-	3

**Months of occurrence:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	22	31	177	136	25	12	-	-

**Selected annual totals from fixed traps (20+):** W. CORNWALL [1] IOS: Longstone, St Mary's - 50 (Scott, 2010). E. KENT [15] Dungeness area - 42 at fourteen sites (Clancy, 2010). E. SUFFOLK [25] Bawdsey - 23 (Deans, 2010).

**Earliest dates:** ISLE OF WIGHT [10] Bonchurch, 24.5 (JH). E. KENT [15] Dymchurch, 24.5 (JEO).

**Latest dates:** E. SUSSEX [14] Friston, 26.10 (MB per CRP). DORSET [9] Studland, 27.10 (DCGB). E. KENT [15] Dymchurch, 25.10 (JEO). W. GLOUCESTERSHIRE [34] Dursley, 31.10 (S. Chappell per RGG).

**Large single night counts:** DORSET [9] Puddletown, 9.8 (4) (HWH). E. KENT [15] Dymchurch, 16.7 (4), 1.8 (c.20) (JEO).

**Most northerly records:** CHESHIRE [58] Birkenhead, 20.8 (G. Jones per S. Palmer). S.E. YORKSHIRE [61] Kilnsea, 20.7 (PAC per CHF). S. LANCASHIRE [59] Hoghton, 27.7 (G. Dixon per SMP). MID-W. YORKSHIRE [64] Ripon, 14.7 (DDB per CHF).

**Selected inland records:** HERTFORDSHIRE [20] Aldbury, 21.8 (G. Broad per CWP); Bishops Stortford, 17.7, 20.7 (J. Fish per CWP). BEDFORDSHIRE [30] Haynes, 15.7 (S. Knight). HUNTINGDONSHIRE [31] Old Weston, 31.7 (K. Royles per BD). E. GLOUCESTERSHIRE [33] Bishop's Cleeve, 14.9 (J. Brock per RGG). WORCESTERSHIRE [37] Norchard, 12.7 (M. Southall). MID-W. YORKSHIRE [64] Ripon, 14.7 (DDB per CHF).

**2400 *Helicoverpa armigera* (Hb.) Scarce Bordered Straw [I][In]**

**Total no. reported: 207**

**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
24	77	69	23	6	-	-	5	-	-	3

**Months of occurrence:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	-	2	4	59	28	107	5	-

**Selected annual totals from fixed traps (10+):** ISLE OF WIGHT [10] Island total - 10 at six sites (Knill-Jones, 2010). E. KENT [15] Dungeness area - 15 at fourteen sites (Clancy, 2010); Isle of Thanet - 15 at five sites (Solly *et al.*, 2010).

**Earliest dates:** E. KENT [15] Dungeness, 4.6 (DW).

**Latest dates:** E. CORNWALL [2] St Germans, 7.11 (JCN per LACT). E. KENT [15] Ramsgate, 15.11 (PM per IDF).

**Most northerly records:** S.E. YORKSHIRE [61] Easington, 27.8 (MJS per CHF); Kilnsea, 24.8, 1.9, 2.9, 23.10 (BRS, PAC per CHF).

**Selected inland records:** SURREY [17] Reigate, 9.10 (RAC per GAC). BEDFORDSHIRE [30] Biggleswade, 29.10 (L. Burgess). NORTHAMPTONSHIRE [32] Woodnewton, 1.8, 30.8 (N. Smith). W. GLOUCESTERSHIRE [34] Lower Woods (ST74/87), 29.8 (P. Cranswick per RGG).

**Importations:** S. DEVON [3] Kingsteignton, 23.1, larva found in supermarket-bought green beans imported from Kenya, reared to an adult (RF). DORSET [9] Wareham, 15.10, larva found on carnations (B. Noake, in Davey, 2010). MID-CORK [H4] Crosshaven, 13.3, adult found alive inside



a red pepper imported from Spain and purchased in a supermarket a few days earlier (Walsh *et al.*, 2011).

**2403 *Heliothis peltigera* (D. & S.) Bordered Straw [I]**

**Total no. reported: 231**

**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
20	86	74	17	18	-	-	5	-	1	10

**Months of occurrence:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	31	74	20	97	8	1	-	-

**Selected annual totals from fixed traps (10+):** DORSET [9] Portland Bird Observatory – 10 (Cade, 2010); West Bexington – 15 at two sites (RE, MJS, in Davey, 2010). ISLE OF WIGHT [10] Island total – 10 at six sites (Knill-Jones, 2010). E. KENT [15] Dungeness area – 31 at fourteen sites (Clancy, 2010); Isle of Thanet – 15 at five sites (Solly *et al.*, 2010).

**Earliest dates:** S.E. YORKSHIRE [61] Kilnsea, 8.5 (PAC per CHF).

**Latest dates:** DORSET [9] Durlston, 28.10 (per BFS).

**Large single night counts:** DORSET [9] Puddletown, 26.5 (3) (HWH); West Bexington, 26.5 (3) (MJS).

**Most northerly records:** OUTER HEBRIDES [110] South Uist, 12.6 (CJ).

**Selected inland records:** SURREY [17] Carshalton, 13.6 (D. Coleman per GAC); Guildford, 27.5 (J.S. Austin per GAC); Kingston, 28.5 (A. Turner per GAC); Send Marsh, 7.8 (A. Goddard per GAC). HUNTINGDONSHIRE [31] Earith, 21.8 (D. Griffiths per BD).

**Immature stages:** S. EBUDES [102] Port Charlotte, Islay, 18.7, larva on *Tripleurospermum inodorum* (Johnson & Young, 2010).

**2441 *Autographa gamma* (L.) Silver Y [II]**

**Selected annual totals from fixed traps (1000+):** W. CORNWALL [1] IOS: Longstone, St Mary's – 2056 (Scott, 2010). DORSET [9] Portland Bird Observatory – 1591 (Cade, 2010). ISLE OF WIGHT [10] Island total – c.1626 at six sites (Knill-Jones, 2010). E. KENT [15] Dungeness area – 1375+ at fourteen sites (Clancy, 2010); Isle of Thanet – 1242 at five sites (Solly *et al.*, 2010). S. ESSEX [18] Bradwell-on-sea – 1796 (Dewick, 2010). E. SUFFOLK [25] Bawdsey – 1555 (Deans, 2010). S.E. YORKSHIRE [61] Spurn – 4945 at three sites (Spence, 2010). WATERFORD [H6] Tramore Bay – 3991 (Bryant & Walsh, 2010).

**Earliest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, January (1) (Scott, 2010).

**Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, December (2) (Scott, 2010). E. KENT [15] Biddenden, 8.12 (SJB), Kingsgate, 5.12 (FS per IDF).

**Large single night counts:** W. CORNWALL [1] Church Cove, 17.7 (98) (MT). E. KENT [15] Dymchurch, 20.7 (100+) (JEO). S. ESSEX [18] Bradwell-on-sea, 17.8 (216) (Dewick, 2010). E. SUFFOLK [25] Bawdsey, 18.7 (141), 20.7 (204+), 2.8 (100) (MJD). W. NORFOLK [28] Blakeney, 2.8 (155), 3.8 (110), 5.8 (125) (E. Stubbings per J. Wheeler); Scolt Head NNR, 31.7 (205), 3.8 (1445), 4.8 (865) (N. Lawton per J. Wheeler). S.E. YORKSHIRE [61] Hunmanby Gap, 9.8 (102) (KC per CHF); Spurn/Kilnsea (three sites), 17.7 (1247), 18.7 (459), 20.7 (494) (BRS per CHF).

**Large diurnal/dusk counts:** NORTHAMPTONSHIRE [32] Woodnewton, 30.8 (300+) (N. Smith). S. LANCASHIRE [59] Astley Moss, 7.9 (100+) (KMc per SMP); West Pennine Moors, 10.9 (150+) (SM per SMP). S.E. YORKSHIRE [61] Spurn, annual total – 5786, including a monthly total of c.5000 during August and counts of 2000 on 3.8 and 6.8 (Spence, 2010). N.E. YORKSHIRE [62] Deepdale, 9.8 (135) (LJW per CHF); South Gare, 19.7 (140) (PWF per CHF). W. CORK [H3] Cape Clear Island, 30.5 (c.5000) (EO'D, in Walsh *et al.*, 2011); Dursey Island, 12-13.9 (c.5000) (Walsh *et al.*, 2011). W. CORK [H3] Dursey Island, 13.9 ('many thousands') (D. Scott per PMW). WATERFORD [H6] Brownstown Head, 13.9 (615+) (PMW); Tramore sandhills, 12.9 (1030) (Walsh *et al.*, 2011).

**Immature stages:** WATERFORD [H6] Cronykeery, 31.7, 100+ larvae in a polytunnel (AT, in Walsh *et al.*, 2011). WEXFORD [H12] Sinnottstown, 1.8, larva (IR, in Walsh *et al.*, 2011).



**ANNEX 3: SELECTED 2009 CHANNEL ISLANDS [VC 113] RECORDS**

- 1317** *Catoptria verellus* (Zinck.)  
Guernsey: Icart, 30.6 (TNDP); La Chene, 1.7 (TNDP); St Etienne, 4.7 (Lawlor, 2010); St John, 31.8 (RA). Jersey: Grouville, 3.7 (DJW, in Long, 2010).
- 1410** *Agrotera nemoralis* (Scop.)  
Guernsey: La Chene, 30.6 (TNDP, in Lawlor, 2010).
- 1599** *Araschnia levana* (L.) **European Map**  
Jersey: St Helier, 25.5 (per RLo).
- 1639** *Dendrolimus pini* (L.) **Pine-tree Lappet**  
Guernsey: La Chene, 16.8 (TNDP, in Lawlor, 2010). Jersey: A total of six moths at two sites (Long, 2010).
- 1888b** *Stegania cararia* (Hb.) **Ringed Border**  
Jersey: Grouville, 1.7 (DJW, in Long, 2010).
- 1896** *Itame brunneata* (Thunb.) **Rannoch Looper**  
Alderney: Essex Farm, 1.6 (2) (DJW). Guernsey: La Broderie, 1.6 (PDMC, in Lawlor, 2010). Jersey: Grand Vaux, 2.6 (Long, 2010); La Mielle de Morville, 6.6 (ACW, in Long, 2010).
- 2220** *Shargacucullia scrophulariae* (D. & S.) **Water Betony**  
Guernsey: Icart, 23.6 (TNDP, in Lawlor, 2010).
- 2413** *Deltote bankiana* (Fab.) **Silver Barred**  
Guernsey: Damouettes Lane, 31.5 (TBo, in Lawlor, 2010).
- 2456** *Minucia lunaris* (D. & S.) **Lunar Double-stripe**  
Jersey: L' Ouaisné, 20.5 (Long, 2010).

**APPENDIX 1****Corrections/Additions to 2008 report**

- 1262** *Cydia amplana* (Hb.) [I]  
DORSET [9] Alderholt, 27.8 (T. Morris, in Davey, 2010).
- 1369** *Uresiphita gilvata* (=polygonalis) (Fab.) [I]  
WATERFORD [H6] Tramore, 12.9 (not 22.9 as given in 2008 report and in Bryant & Walsh, 2009) (TB).
- 1397a** *Diplopseustis perieresalis* (Walk.) [I/In]  
MIDDLESEX [21] Westminster, September, found indoors, first VC record (AJ).
- 1972** *Agrius convolvuli* (L.) **Convolvulus Hawk-moth** [I][In]  
HUNTINGDONSHIRE [31] Old Weston, 31.7, 23.8 (K. Royles per BD). S. NORTHUMBERLAND [67] Tynemouth, 28.8, 2.9 (KWR per TJT).
- 1973** *Acherontia atropos* (L.) **Death's-head Hawk-moth** [I][In]  
CHESHIRE [58] Wallasey, 7.9, found dead (P. Smith per S. Palmer). S. NORTHUMBERLAND [67] Burradon Farms (NZ282733), 25.8 (M. Bryant per TJT).
- 1984** *Macroglossum stellatarum* (L.) **Humming-bird Hawk-moth** [I]  
An additional eight records from VC31 (SI) recorded in June (1), July (4), August (2), September (1) (per BD).
- 1987** *Hyles gallii* (Rott.) **Bedstraw Hawk-moth** [I][R]  
N. NORTHUMBERLAND [68] Holy Island, 31.5 (S. Sexton per TJT).



- 2041** *Pelosia muscerda* (Hufn.) Dotted Footman [R][I][V]  
W. SUSSEX [13] Middleton-on-sea, 25.7 (IDM).  
[Published record from Owlsmoor [22] on 25.7 is erroneous and relates to the above record (per IDM).]
- 2051** *Lithosia quadra* (L.) Four-spotted Footman [R][I]  
W. SUSSEX [13] Middleton-on-sea, 11.10 (IDM). HUNTINGDONSHIRE [31] Holme Fen, 1.7 (BD).  
[Published record from Owlsmoor [22] on 11.10 is erroneous and relates to the above record from VC13 (per IDM).]
- Unlisted** *Utetheisa pulchelloides* (Hampson) [In]  
GLAMORGAN [41] Pegham Green, undated, the first British record of this Indo-Australian sibling species of *U. pulchella*, a presumed importation (per M.R. Honey).
- 2094** *Agrotis crassa* (Hb.) Great Dart [I][FR]  
DORSET [9] Swanage, 30.7 (ARC per BFS).
- 2292** *Cryphia algae* (Fab.) Tree-lichen Beauty [I][R]  
W. SUSSEX [13] Middleton-on-sea, 25.7 (IDM).  
[Published record from Owlsmoor [22] on 25.7 is erroneous and relates to the above record (per IDM).]

## APPENDIX 2

### Corrections/Additions to 2007 report

- 1409a** *Diaphania perspectalis* (Walk.) [In]  
E. KENT [15] Wye, 7.9, in polytunnel (R. Bailey per SPC, via KCP & BBo); this now becomes the first British record of this species, pre-dating the 2008 Surrey record previously thought to hold this honour (see Clancy, 2011).

## APPENDIX 3

### Corrections/Additions to 2006 report

- 1374a** *Sclerocona acutellus* (Evers.) [In][I?]  
BUCKINGHAMSHIRE [24] Chorleywood, 29.6, first VC record (R. Ellis per MVA, in Langmaid & Young, 2010).
- 1375** *Ostrinia nubilalis* (Hb.) [R][I][V]  
DOWN [H38] Murlough, 18.7, first VC record (K. Murphy per MSP, in Langmaid & Young, 2010).
- 2407** *Eublemma ostrina* (Hb.) Purple Marbled [I]  
ISLE OF WIGHT [10] Bonchurch, 18.6 (JH); incorrectly reported and published as a record of *E. parva*.

## APPENDIX 4

### Corrections/Additions to 1996 report

- 1678a** *Cyclophora ruficiliaria* (H.-S.) Jersey Mocha [I][MC]  
DORSET [9] Worth Matravers, 18.8, becomes the first known British record (Townsend, 2011).

### Initials of recorders

AA	Ashworth, A.	GF	Fitchett, G.	NJ	Jarman, N.
AAL	Lawrence, A.A.	GS	Sell, G.	NJR	Riddiford, N.J.
AB	Batten, A.	GSAS	Spraggs, G.S.A.	NO	Odin, N.
AC	Cornish, A.	HE	Edmunds, H.	NS	Sherman, N.
ACW	Warne, A.C.	HEB	Beaumont, H.E.	PAC	Crowther, P.A.
AECA	Aston, A.E.C.	HWH	Wood Homer, H.	PAD	Davey, P.A.
AFG	Gardner, A.F.	IAR	Roberts, I.A.	PAR	Riley, P. & A.
AGJB	Butcher, A.G.J.	IC	Cook, I.	PAS	Sokoloff, P.A.



AHD	Dobson, A.H.	IDF	Ferguson, I.D.	PB	Bryant, P.
AHW	Wheatcroft, A. & H.	IH	Hodgson, I.	PC	Clarke, P.
AJ	Jenkins, A.	IL	Lang, I.	PDC	Chapman, P.D.
AJK	Kolaj, A.J.	IR	Ripley, I.	PDMC	Costen, P.D.M.
AJM	Mackay, A.J.	IRT	Thirlwell, I.R.	PGA	Akers, P.G.
AK	Kennard, A.	JB	Bellamy, J.	PH	Harris, P.
AM	Middleton, A.	JBH	Higgott, J.B.	PHB	Boggis, P.H.
AMD	Davis, A.M.	JC	Clifton, J.	PHS	Stirling, P.H.
AMS	Smout, A-M.	JCN	Nicholls, J.C.	PK	Kitchener, P.
AMT	Tebbs, A. & M.	JDW	Wilson, J.D.	PL	Lister, P.
AP	Prior, A	JEC	Chainey, J.E.	PM	Milton, P.
ARC	Cox, A.R.	JEO	Owen, J.E.	PMW	Walsh, P.M.
ARM	Mitchell, A.R.	JF	Francis, J.	PQW	Winter, P.Q.
AT	Tyner, A.	JH	Halsey, J.	PRW	Williams, P.R.
AW	Wood, A.	JHC	Clarke, J.H.	PS	Sokoloff, P.
BBa	Banson, B.	JK	Knowler, J.	PT	Tennent, P.
BBo	Boothroyd, B.	JP	Porter, J.	PWF	Forster, P.W.
BD	Dickerson, B.	JRL	Langmaid, J.R.	RA	Austin, R.
BFS	Skinner, B.F.	JS	Scanes, J.	RAC	Cramp, R.A.
BH	Hunt, B.	JSB	Badmin, J.S.	RBW	Wynn, R.B.
BJM	Milne, B. & J.	JSR	Russell, J.S.	RC	Clatworthy, R.
BRS	Spence, B.R.	JTR	Radford, J.T.	RE	Eden, R.
CA	Atkins, C.	JW	Ward, J.	RF	Fox, R.
CH	Hart, C.	KC	Clarkson, K.	RFM	McCormick, R.F.
CHF	Fletcher, C.H.	KCP	Privett, K.C.	RGG	Gaunt, R.G.
CJ	Johnson, C.	KEN	Noble, K.E.	RJD	Dickson, R.J.
CM	Moore, C.	KGMB	Bond, K.G.M.	RJR	Redhead, R.J.
CRP	Pratt, C.R.	KK	Knights, K.	RJS	Stroud, R. & J.
CWP	Plant, C.W.	KMc	McCabe, K.	RLe	Leverton, R.
DA	Anderson, D.	KR	Redshaw, K.	RLo	Long, R.
DB	Beck, D.	KWR	Regan, K.W.	RMH	Harvey, R.M.
DBW	Wooldridge, D.B.	LHW	Whiffen, L.H.	RN	Neave, R.
DC	Crawley, D.	LJF	Finch, L.J.	RS	Steedman, R.
DCG <sup>2</sup>	Gardner, D.C.	LJH	Hill, L.J.	RT	Terry, R.
DCGB	Brown, D.C.G.	LJW	Westmoreland, L. & J.	RW	Wolton, R.
DD	Davidson, D.	LL	Lillington, L.	SAK-J	Knill-Jones, S.A.
DDB	Bowes, D. & D.	LO	Oakes, L.	SB	Bayley, S.
DE	Evans, D.	MA	Ashby, M.	SCM	Madge, S.C.
DEW	Wilson, D.E.	MB	Blencowe, M.	SJB	Broyd, S.J.
DF	Foot, D.	MC	Cade, M.	SM	Martin, S.
DG	Grundy, D.	MCH	Harvey, M.C.	SMP	Palmer, S.M.
DGG	Green, D.G.	MCM	Marsh, M.C.	SO	Ogden, S.
DH <sup>2</sup>	Hardy, D.	MCT	Townsend, M.C.	SP	Philp, S.
DJW	Wedd, D.J.	ME	Elliott, M.	SPC	Clancy, S.P.
DL	Lee, D.	MFB	Feeny-Brown, M.	SW	Wheatley, S.
DM	Money, D.	MFS	Stoyle, M.F.	TB	Bryant, T.
DMG	Godfrey, D. & M.	MG	Gray, M.	TBo	Bourgaize, T.
DNB	Burrows, D.N.	MGT	Telfer, M.G.	TG	Green, T.
DRML	Long, D.R.M.	MJ	Jeffes, M.	TH	Hodge, T.
DS	Sawyer, D.	MJD	Deans, M.J.	THF	Freed, T.H.
DW	Walker, D.	MJS	Sterling, M.J.	TJ	James, T.
EC	Carpenter, E.	MM	McCrea, M.	TJL	Lewis, T.J.
EG	Goodyear, E.	MO	Oates, M.	TJT	Tams, T.J.
EO'D	O'Donnell, E.	MPS	Skevington, M.P.	TM	Morris, T.
FERA	Food & Environmental				
Research Agency		MRY	Young, M.R.	TNDP	Peet, T.N.D.
FS	Solly, F.	MSP	Parsons, M.S.	TR	Rouse, T.
FTJ	Johns, F.T.	MST	Taylor, M.S.	TS	Steele, T.
GAC	Collins, G.A.	MT	Tunmore, M.	TW	Whitaker, T.
GAH	Henwood, G.A.	MVA	Albertini, M.V.	VST	Tucker, V. & S.
GB	Bailey, G.	MWS	Scott, M.A. & W.J.	VW	Weston, V.
GBH	Hocking, G.B.	NDP	Pearce, N.D.	WMC	Curtis, W. & M.

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**Record Humming-bird Hawk-moth *Macroglossum stellatarum* (L.) (Lep.: Sphingidae) immigration into Britain and Ireland in 2011**

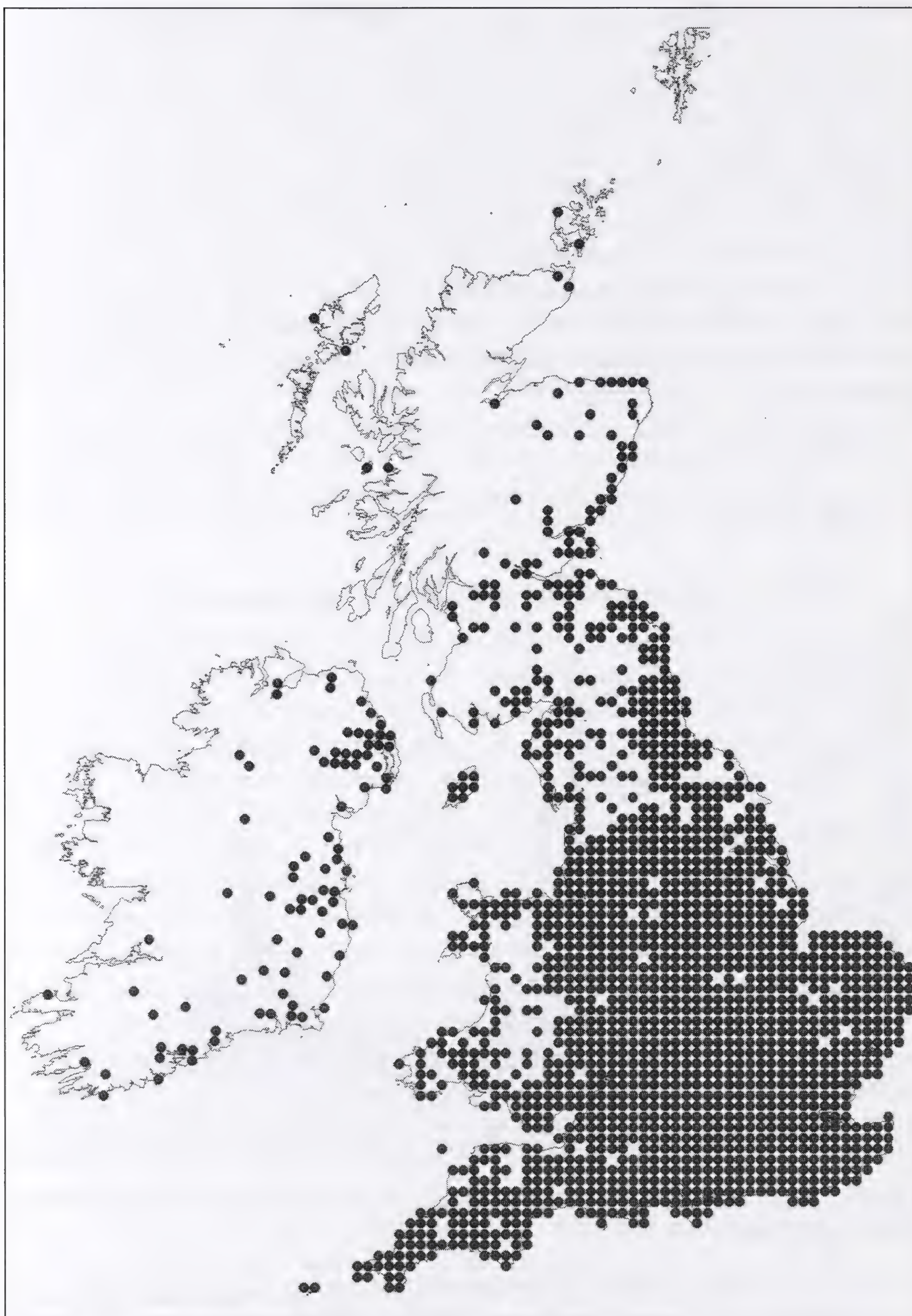
The Humming-bird Hawk-moth is a familiar immigrant to Britain and Ireland from southern Europe and North Africa. It breeds here regularly in the summer months and is also known to overwinter in southern counties. As with other migrant moths and butterflies, the numbers arriving here varies considerably from year to year. Gilchrist's account of the Humming-bird Hawk-moth (in Heath, J. & Emmet, A. M. (eds), 1983. *The Moths and Butterflies of Great Britain and Ireland: Volume 9 Sphingidae-Noctuidae (Part 1)*. Harley Books) states that the number recorded in Britain and Ireland "exceeded 1,000 in 1899, 1947 and 1955, the greatest number being 4,250 in 1947." More recently this total has been exceeded, with a minimum count of 6,586 in 2006 (Clancy, S. P., 2008. The immigration of Lepidoptera to the British Isles in 2006. *Entomologist's Record and Journal of Variation* **120**: 209-276).

At the beginning of 2008, Butterfly Conservation developed a simple, online survey for two common migrant Lepidoptera, the Humming-bird Hawk-moth and the Painted Lady butterfly *Vanessa cardui*. This formed part of the programme of public engagement activities under the Moths Count project funded principally by the Heritage Lottery Fund. The online survey has continued to run since then and has been widely publicised in the media, including on BBC 2 television's *Springwatch* and *Autumnwatch* and on the BBC Radio 4 series *World on the Move*.

2011 proved to be a very good year for Humming-bird Hawk-moths. Once overseas sightings and duplicates had been removed, the online survey received a total of 9,096 reports of the moth in 2011 from 8,400 different people. Figure 1 shows the distribution of these sightings at 10km × 10km grid square resolution. These records contained sightings of a total of 10,490 individual Humming-bird Hawk-moths in Britain and Ireland in 2011, greatly exceeding the previous record total in 2006.

Typically, late summer (August and September) is considered to be the peak in Humming-bird Hawk-moth sightings (Waring, P. & Townsend, M., 2009. *Field Guide to the Moths of Great Britain and Ireland*. British Wildlife Publishing) and this was the case in 2006, when 55% of the annual sightings were in those two months (Clancy, *op. cit.*). The phenology of Humming-bird Hawk-moth sightings in 2011 differed from this pattern. Figure 2 shows the daily count of moths reported to the online survey for the main period of sightings (May–November). There were a small number of reports from each of the other months (i.e. December–April). As can be seen, there were two peak periods for sightings in 2011. The first and larger peak took place between 26 June and 14 July, with the highest daily numbers of moths being on 1-3 July. The second peak took place between the middle of September and the middle of October, with the highest daily reports on 1-2 October. In contrast to the typical pattern, August 2011 was relatively poor for Humming-bird Hawk-moth sightings. This is perhaps not surprising given the poor weather, but could also reflect a period of larval development.

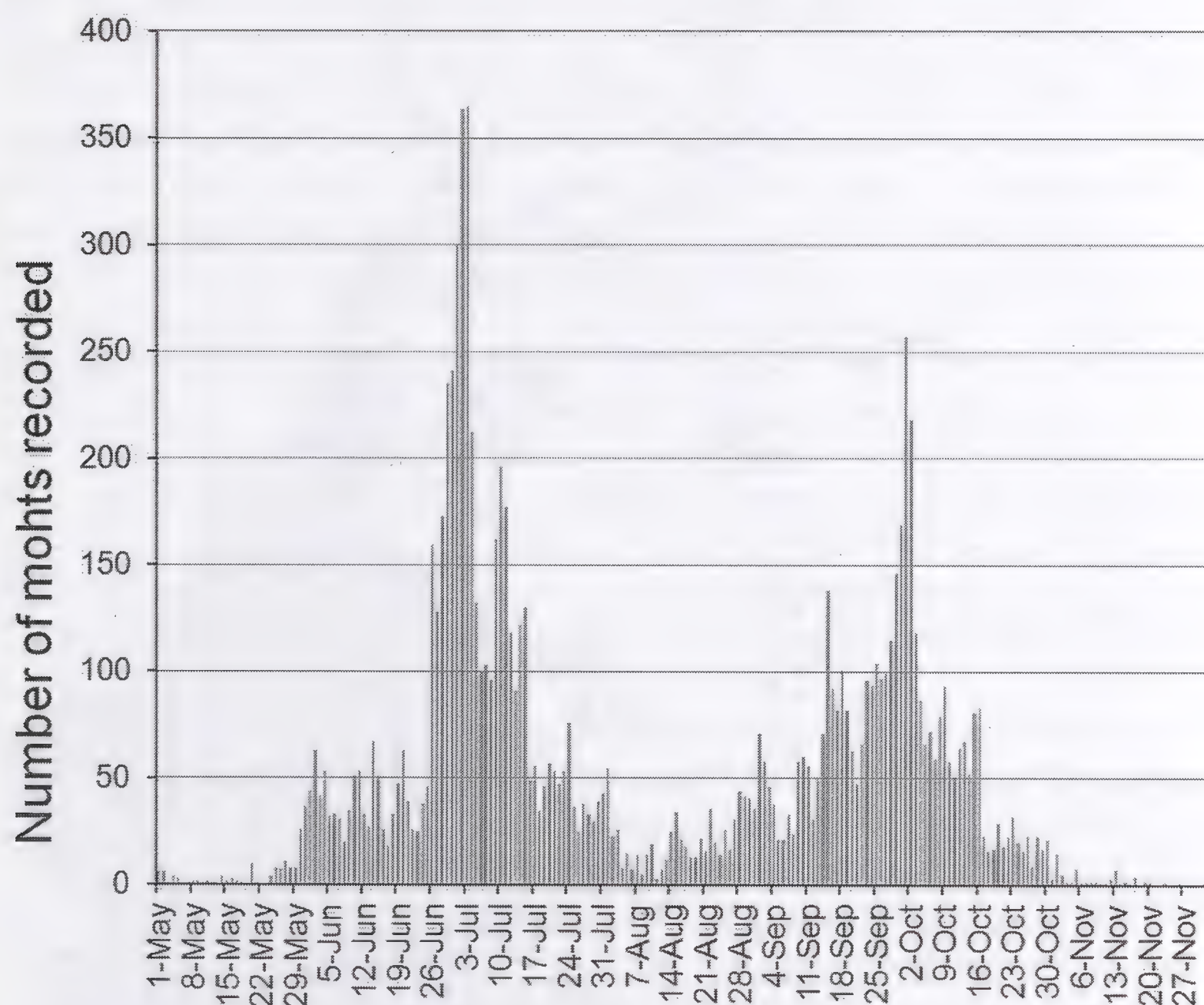




**Figure 1.** Map showing the distribution of Humming-bird Hawk-moth sightings submitted to Butterfly Conservation's online survey in 2011. Each dot represents the presence of at least one record in a 10km x 10km grid square of the Ordnance Survey National Grid.



It is not my assertion that 2011 was the best year ever for Humming-bird Hawk-moths. My own observations and those of other moth recorders that I have spoken to suggest that it was a good but not extraordinary year. However, more Humming-bird Hawk-moths were recorded in 2011 than in any other year and so the aim of this note is simply to place this fact on record. The increasing number of people willing to record Humming-bird Hawk-moths, in conjunction with increased public awareness of the survey and ease of participation, leads to a more comprehensive assessment of the distribution and abundance of the moth, but also makes comparison with previous data problematic. The formal report for immigration of Lepidoptera to the British Isles in 2011 is yet to be published so it remains to be seen how the Humming-bird Hawk-moth total in that report compares to the data presented here.



**Figure 2.** The daily totals of Humming-bird Hawk-moths reported to Butterfly Conservation's online survey in 2011.

There is also the potential for misidentification among survey participants who are unfamiliar with moths. The Humming-bird Hawk-moth is a very distinctive diurnal insect and was chosen for the online survey, at least in part, because of its ease of identification. Nevertheless, some inexperienced participants may have mistakenly recorded other moths or Bee-flies (Diptera: Bombyliidae). However,



there is no reason to assume that all of the participants are inexperienced recorders – indeed many may have a good knowledge of moths and general natural history. In addition, I conducted a small-scale quality control assessment. Many participants take photos of the insect(s) that they are reporting and note this fact in their online submissions. I contacted 20 such participants who had submitted Humming-bird Hawk-moth records to the online survey in 2011 and asked to see the photos that they had taken. All of the identifications in this small sample were correct. Thus, while acknowledging that there may be mistakes in this dataset, as with any other, I doubt that any such errors will have a significant impact on the overall results.

I would like to thank all of the people who submitted Humming-bird Hawk-moth records during 2011, Les Hill for assistance with data handling and Mark Parsons for helpful comments. The online survey for Humming-bird Hawk-moth and Painted Lady continues in 2012 at [www.butterfly-conservation.org](http://www.butterfly-conservation.org) and any sightings would be greatly appreciated. — RICHARD FOX, Butterfly Conservation, Manor Yard, East Lulworth, Dorset BH20 5QP (E-mail: [rfox@butterfly-conservation.org](mailto:rfox@butterfly-conservation.org)).

### **A good year for *Corizus hyoscyami* (L.) (Hem.: Rhopalidae)**

*Corizus hyoscyami* is one of our most distinctive bugs. Large and strikingly marked with red and black, it occurs mostly near the coast. In recent years, however, the bug has been making significant forays inland, and there have been many records from non-coastal counties. This change in distribution first came to the notice of hemipterists in 2006, and the situation of that year is comprehensively documented by Whitehead (2008, *Ent. Mon. Mag.* **144**: 163-176).

My own first inland record of this species was in the previous year, 2005, when I noticed a single individual on a thistle head whilst strolling through a wood in Buckinghamshire. This encounter was personally significant, as it spawned a renewed interest in the Heteroptera, a group that I had neglected for many years. In subsequent seasons, I continued to find occasional singletons in my travels through The Three Counties of Oxfordshire, Berkshire and Buckinghamshire, and by the end of last year, 2010, I had added nine more records of the insect. These ten records are listed in Table 1 and can be seen to fall within six separate localities. At two localities I found second specimens within a single year, on separate occasions, at Whitecross Green Wood, Oxfordshire (2008) and The Holies, Berkshire (2009). Also, at two localities I found specimens in separate years, at Bernwood Forest, Buckinghamshire (2005 and 2006) and The Holies (2006 and 2009). A key question concerning these records was whether they provided evidence of the insect being resident within The Three Counties, that is existing as breeding populations that can survive the winter and continue year after year. However, it seemed more likely that the bug was nothing more than an uncommon vagrant, the specimens I took having dispersed from breeding colonies elsewhere.



Table 1. Inland records of adult *Corizus hyoscyami* (L.) in 2005-2010.

Date		Location	VC	No.	Record
08.viii.2005	SP621111	Bernwood Forest, near Brill	Buckinghamshire	1 ♀	on a thistle head (Asteraceae)
28.vii.2006	SP666155	Rushbeds Wood, near Brill	Buckinghamshire	♂	sweeping thistles (Asteraceae)
01.viii.2006	SP623108	Bernwood Forest, near Brill	Buckinghamshire	1	sweeping a ride
14.viii.2006	SU593800	The Holies, Streatley, North Wessex Downs	Berkshire	1 ♂	sweeping hillside pasture
02.viii.2007	SP654015	Spartum Fen, near Latchford	Oxfordshire	1 ♀	sweeping a pond edge
15.viii.2008	SP601146	Whitecross Green Wood, Ot Moor	Oxfordshire	1 ♀	sweeping a clearing
30.viii.2008	SP597146	Whitecross Green Wood, Ot Moor	Oxfordshire	1 ♂	sweeping a clearing
13.viii.2009	SU592800	The Holies, Streatley, North Wessex Downs	Berkshire	1 ♀	sweeping hillside pasture
17.viii.2009	SU592800	The Holies, Streatley, North Wessex Downs	Berkshire	1 ♀	sweeping hillside pasture
29.viii.2010	SU728973	Beacon Hill, Aston Rowant NNR, near Watlington, Chiltern Hills	Oxfordshire	1 ♂	beating juniper ( <i>Juniperus communis</i> )

Table 2. Inland records of adult *Corizus hyoscyami* (L.) in 2011.

Date		Location	VC	No.	Record
14.vii.2011	SP953146	Pitstone Hill, near Pitstone, Chiltern Hills	Buckinghamshire	1 ♀	sweeping restharrow ( <i>Ononis repens</i> )
18.vii.2011	SU443629	The Chase, Woolton Hill	Hampshire	1 ♂	sweeping a pond edge
28.vii.2011	SU452999	Hitchcapse Pit, near Dry Sandford	Oxfordshire	2 ♂ 3 ♀ ♀	1 unsexed sweeping a fallow field
31.vii.2011	SU978347	Botany Bay Wood, near Chiddingfold	Surrey	1 ♂	sweeping a ride
02.viii.2011	SU692832	Burnt Platt Wood, near Stoke Row, Chiltern Hills	Oxfordshire	7 ♂ 4 ♀ ♀	9 unsexed sweeping a ride
05.viii.2011	SP571091	near Stanton St John	Oxfordshire	1 ♀	sweeping a lake edge
13.viii.2011	SU452999	Hitchcapse Pit, near Dry Sandford	Oxfordshire	1 ♂ 2 ♀ ♀	sweeping a fallow field
25.viii.2011	SU813867	Homefield Wood, near Medmenham, Chiltern Hills	Buckinghamshire	1 ♂	sweeping a ride
02.ix.2011	SU692832	Burnt Platt Wood, near Stoke Row, Chiltern Hills	Oxfordshire	14 ♂ 3 ♀ ♀ 7 unsexed	sweeping a ride
11.ix.2011	SU692832	Burnt Platt Wood, near Stoke Row, Chiltern Hills	Oxfordshire	1 ♂	sweeping a ride
11.ix.2011	SU678832	Ipsden Wood, near Stoke Row, Chiltern Hills	Oxfordshire	1 ♂	beating spruce ( <i>Picea</i> sp.)



This year, 2011, my recording of *C. hyoscyami* has been very different, as can be seen from Table 2. Sixty individuals of the bug have been found, at six new localities within The Three Counties, and at two localities over the border in Hampshire and Surrey. Most of these localities provided only singletons, but multiple individuals were found at two sites in Oxfordshire. Nine were found, in two visits, sweeping a fallow field at Hitchcopse Pit, a sandy area to the south of Oxford. Forty-four were found in two visits, sweeping the edges of a wide ride at Burnt Platt Wood, an area of sandy heath in the Chiltern Hills. A third visit to this site produced a forty-fifth individual within a couple of minutes, before rain stopped play. As in previous years, no nymphs were encountered at any of these localities, but the numbers of adults found at Burnt Platt Wood and Hitchcopse Pit, in contrast to the singletons or absence of the insect elsewhere, indicate the presence of breeding colonies, at least at the former site. Whether these colonies have existed in previous years is difficult to assess. I have not visited Burnt Platt Wood prior to this year, and I have not worked Hitchcopse Pit, in the late summer, since 2007. The latter site is soon to be destroyed for sand extraction, a new access road for lorries having been laid this year; but it will be interesting to revisit Burnt Platt Wood next spring to look for overwintered adults, and for the elusive nymphs. However, regardless of the particular status of the bug at these localities, it has clearly become a much more common insect in 2011, than it has been in previous years, in terms of both the number of individuals found and the number of localities recorded.

Some excellent images of this bug can be found on the British Bugs website (<http://www.britishbugs.org.uk>) or by searching Flickr (<http://www.flickr.com>). – ROB RYAN, 38 St John Street, Oxford, OX1 2LH (E-mail: [notnowcato@ymail.com](mailto:notnowcato@ymail.com)).

### ***Stenodema holsata* (Fabricius) (Hem., Miridae) in the Chiltern Hills**

On 28 May 2011 I visited Cowleze Wood, near Watlington in the Oxfordshire part of the Chiltern Hills, with the purpose of digging some pitfall traps for Coleoptera. However, upon arrival I was most vexed to discover that I had forgotten to bring my trowel. After a brief period of cursing, my mind turned from the negative to the positive, and I started to formulate a Plan B. It was too windy to sweep and beat on the adjacent down, but remembering that such conditions can bring canopy species within reach, I decided to work the borders of the sheltered car park area of the wood, a site I had neglected in the past. Sweeping the mixed vegetation at the foot of the trees, I was immediately rewarded with several specimens of *Stenodema holsata* (Fabr.); not a canopy species, but a grassbug (Miridae-Mirinae-Stenodemini) which I had hitherto failed to find anywhere since my youth growing up in Yorkshire. These were of the over-wintered form of the bug, striking and unmistakeable with their broad green and brown longitudinal stripes. Venturing further, into the wood proper, I found more of the insect among the mixed grasses of a shaded ride. The narrow, darker rides and paths of the wood did not produce the insect, nor did the broad, bright main ride, where the bug was replaced by one



of its congeners, *S. laevigata* (L.), an almost ubiquitous insect that will be familiar to anyone who has ever taken up a sweep net in grassy situations.

I reported my find to Dr Bernard Nau, former National Recorder for the Heteroptera, who stated that he had also found the bug in the Chiltern Hills, at two woodland sites in Buckinghamshire and Hertfordshire, but never in his own county of Bedfordshire. This created a puzzle as to why *S. holsata* seemed restricted to upland woodland, and was apparently absent from the lowland woods and from open, grassy areas at either elevation. Southwood and Leston (1959. *Land and Water Bugs of the British Isles*, Warne, London) states that the bug is especially abundant in upland pastures and in damp acid woodlands, but neither description is appropriate for the Chiltern sites. Woodroffe (1960. *Entomologist's Monthly Magazine* 96: 4) comments that whilst the bug is common in grassy, open habitats in the north and west, it is confined in the south-east to woodland rides and glades, but does not mention the issue of altitude. I therefore decided to investigate the matter further.

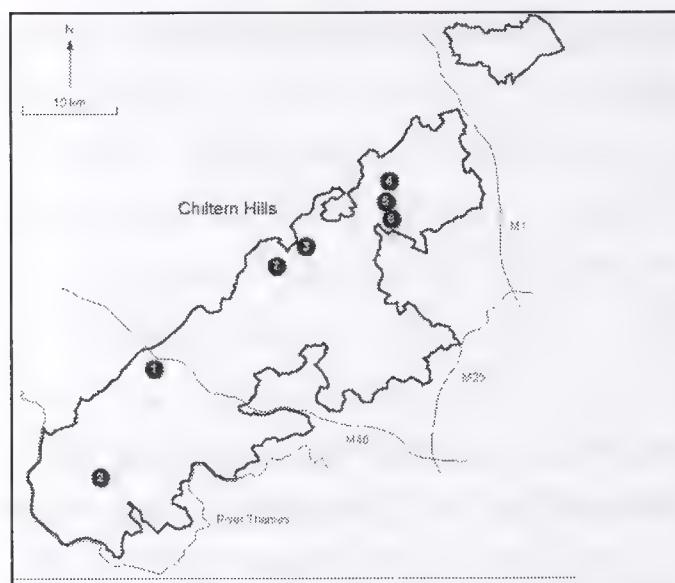
Grid Reference	Site	Altitude	Vice-county
SU726956	1. Cowleze Wood, near Watlington	255m	23: Oxfordshire
SU677830	2. Ipsden Wood, near Stoke Row	135m	23: Oxfordshire
SP887085	3. Wendover Woods, Wendover	200-250m	24: Buckinghamshire
SP975146	4. Ivinghoe Common, Ashridge Estate	220m	24: Buckinghamshire
SP972118	5. Aldbury Common, Ashridge Estate	195m	20: Hertfordshire
SP977103	6. Northchurch Common, Ashridge Estate	175m	20: Hertfordshire
SP853063	7. Low Scrubs, Coombe Hill, near Wendover	245m	24: Buckinghamshire
SU210679	– Savernake Forest, Marlborough	180m	7: North Wiltshire
SU350025	– Hawkhill Inclosure, New Forest	30m	11: South Hampshire

**Table 1.** The sites of *Stenodema holsata* mentioned in the text. The altitude figures are derived from Ordnance Survey Explorer (1:25000) maps. The vice-counties are deduced from the grid references using <http://herbariaunited.org/gridrefVC>

I first checked my existing woodland haunts, lowland and upland, which all proved negative, confirming my previous experience. I then began to explore new sites and amid several failures I found the bug at Ipsden Wood, near Stoke Row, just 8km from the south-western end of the Chilterns. The conditions here were somewhat different from those at Cowleze Wood. The insect was confined to a short, dark, canopied stretch of bridleway at the junction with the road, where the dominant grass was Wood Melick, *Melica uniflora* Retzius (Gramineae). The bright clearings to either side of the bridleway, where the Wood Melick was replaced by other, mixed grasses, produced *S. laevigata*, but not *S. holsata*.

I then turned to the north-east and, using the information provided by Dr Nau, quickly found more sites for the bug. At Wendover Woods in Buckinghamshire, I followed the Firecrest Trail and found both *S. holsata* and *S. laevigata* at various





**Figure 1.** The sites of *Stenodema holsata* in the Chiltern Hills. The locations of the sites are shown as numbered circles. The numbers in the circles refer to the site numbers in Table 1.

points, but curiously I never found the two species together. The rides here were mostly wider and brighter than where I had previously found *S. holsata*, but were still shaded by surrounding trees. In the National Trust's Ashridge Estate in Hertfordshire, I found the bug sweeping the mixed grasses around three car parks (on Ivinghoe Common, Aldbury Common and Northchurch Common), but only in the shaded portions and a short way into the woods. The bug was not found deeper into the woods, where the canopy created darker conditions resembling those found at Ipsden Wood, and in the brighter parts of the car parks the insect was again replaced by *S. laevigata*.

Turning south-west again, I discovered another site for the bug at Low Scrubs, part of the National Trust's Coombe Hill site. Here the bug was found along grassy paths amid the scrub, but was absent where a canopy formed. Despite much further searching, no more sites for the bug were found in the Chiltern Hills, but I did find it at Savernake Forest, Marlborough, Wiltshire in the North Wessex Downs. Once again, the bug was found in shaded rides and was not taken with *S. laevigata*. By this stage in my search, it was mid-July and the new generation was starting to appear, alongside the last of the overwintered bugs. The new insects were less striking than their parents, the stripes being coloured straw and dark brown, without any green. This overlapping of the generations is significant as it prevents the explanation of negative results as the bug being out of season when sites were visited. Clearly, if there were strong colonies of *S. holsata* at my previously well-worked sites, open and wooded, lowland and upland, I would certainly have found them.

I conclude from the foregoing that *S. holsata* is widely distributed but local in the Chiltern Hills. It prefers elevated, shaded woodland settings, but the precise conditions in which it is found varies from one site to the next. It also appears to have a curious aversion to *S. laevigata*. In my search, I also encountered another congener, *S. calcarata* (Fallén), which is commonly found with *S. laevigata*, but it also was not found with *S. holsata*. This separation of species is probably not due just to the degree of shade, as at Wendover Woods both *S. holsata* and *S. laevigata* were found in similar conditions. Perhaps a biologist with a slightly cruel streak might rear these species together in a vivarium and see how they get along.

I very much doubt that these conclusions will prove to be applicable generally across south-eastern England, as I have also taken *S. holsata* at a lowland site, along a wide, bright, unshaded ride in Hawkhill Enclosure, New Forest, Hampshire, although once again the bug was not taken with other *Stenodema* species.

Some excellent images of the bug can be found on the British Bugs website (<http://www.britishbugs.org.uk>) or by searching Flickr (<http://www.flickr.com>). I am very grateful to Dr. Nau for his assistance with this project. — ROB RYAN, 38 St John Street, Oxford, OX1 2LH (E-mail: [notnowcato@ymail.com](mailto:notnowcato@ymail.com)).



## SCARCE AND MIGRANT LADYBIRDS (*COCCINELLIDAE*) IN MOTH TRAPS

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### Abstract

Light trap records of ladybirds from 2003-2011 are presented. Most of the common easily observed species were only infrequently recorded. However, some of the more uncommon species such as Adonis', 18-spot, Eyed and Larch, were found from the continent and several pine specialist species are overrepresented, given their scarcity.

**Keywords:** Light trap records, Ladybird migration, Pine specialist ladybirds.

### Introduction

Of the 47 species of beetles from the family *Coccinellidae* resident in Britain and Ireland 26 species are readily recognisable as 'ladybirds' and have been given English names (Roy et al, 2011). This sub-group could be described as 'macro' ladybirds analogous to the micro/macro distinction applied to moths. A number of these species have demonstrated a propensity for long distance dispersal. The 7-spot ladybird *Coccinella septempunctata*, for example, has been reported undertaking long flights across the sea and large numbers have been seen on ships (Minchin, 2010). The invasive Harlequin Ladybird *Harmonia axyridis* was released in Europe as a biological control agent on a commercial basis in the 1990s and has been described as the fastest-spreading invasive insect in Europe. It was first recorded in south-east England in 2003 and has since spread as far as Orkney, the Pembrokeshire coast and western Cornwall. It first arrived in numbers in my own area (Southampton, Hampshire) in July 2006. There is good evidence that this particular wave of colonisation was from the near continent. The dates of my first moth trap records coincide closely with the first records (also in moth traps) from Portland Bill, Dorset on 27 July ([http://www.portlandbirdobs.org.uk/latest\\_jul2006.htm](http://www.portlandbirdobs.org.uk/latest_jul2006.htm)). Brown and Roy (2007) link immigration from mainland Europe with arrivals of immigrant moths at coastal sites in Dorset, Sussex and Norfolk in August 2006.

A number of ladybird species and other beetles are recorded in moth traps and, although the numbers attracted may be small, the appearance of some of these insects may reflect 'migrant' arrivals from the continent and coincide with arrivals of interesting migrant moths. Furthermore, amongst resident species, there is evidence that the ladybirds attracted to light include a higher than expected number of scarcer species that are difficult to find in daytime searches. Light trap recording of ladybirds therefore presents an opportunity to provide additional records of significance for specific locations, particularly where ladybirds are poorly recorded.

### Macro-ladybirds from moth traps in a Southampton garden

My garden is situated in an urban area on the south-eastern side of Southampton (O.S. grid reference SU 461119). I have been moth trapping here for 20 years and



since 2003 have also kept records of ladybirds in my 125W mercury vapour (MV) and actinic (twin 30W) moth traps. On the morning of 8 November 2011 a single Adonis' ladybird *Hippodamia variegata* was found in the MV trap. This was notable as the first garden record of a species which is very local in Britain and on a noticeably late date in the year. The species has been recorded previously in the Southampton area, the closest location being Weston Shore at the northern end of Southampton water, although there are few records. It was recorded during a period of unseasonably mild south-easterly winds which was associated with the unusually late arrival of migrant moths including *Palpita vitrealis* (12 November) and Gem *Orthonama obstipata* (16 November). Hawkins (2000) identifies Adonis' ladybird as one of the most frequent Mediterranean species which is 'probably also migrant'. The relatively scarcity in the local area, the late date and weather conditions linked with moth migration supports the possibility that this individual was a migrant from the continent.

I have recorded a total of 12 macro ladybird species in the garden moth traps since 2003. Only two species, the Orange ladybird *Halysia sedecimguttata* and the Harlequin ladybird are regular. The most frequent (115 records, Table 1) is Orange ladybird, which has long been known to appear in moth traps. In the Southampton area it is only infrequently seen during the day. The peak counts in the traps are during June (Table 2) and, in line with other ladybird species, the highest numbers are found during warm summers, such as 2006 (Table 1). The Harlequin ladybird has been the most frequent species in the traps since its arrival in 2006 although moth trap numbers remain relatively low given the large numbers easily found by day throughout Southampton. The peak numbers of Harlequin ladybirds seen during the day are in October and November (Roy et al, 2011). This differs from the moth trap numbers which peak in June (Table 2), suggesting seasonal differences in behaviour influence the likelihood of insects entering moth traps. Other species are far less regular but the 18-spot, which is a locally distributed specialist of the crowns of Scots pine trees, is notable as the third most frequently recorded species. Interestingly, there are very few suitable host trees in the vicinity of the garden and a focussed search of suitable trees is usually needed to locate it by day (with variable success rates). It is ranked as only the 19th most widespread (Table 1) of the 26 macro ladybirds as measured by UK 10km square coverage in Table 5 of Roy et al (2011). Interestingly other relatively local Scots pine specialists have appeared in the moth trap whereas more abundant and 'visible' ladybird species have not appeared or are much rarer than their widespread distribution would suggest. These pine specialists are Cream-streaked ladybird *Harmonia quadripunctata* (found on conifers, usually Scots pine, rank 18); Larch ladybird *Aphidecta oblitterata* (which lives on larch, Scots pine and Douglas fir, rank 14) and Eyed ladybird *Anatis ocellata* (which lives primarily on Scots pine, rank 15). Surprisingly, the really common species that are easily seen by day, such as 2-spot *Adalia bipunctata* and 7-spot, are infrequently or very rarely seen in moth traps.



Table 1. Ladybird totals in moth trap by year

Species	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total	10km squares (rank) *
Orange ( <i>Halysia sedecimguttata</i> )	1	19	15	39	18	7	6	10	0	115	789(9)
Harlequin ( <i>Harmonia axyridis</i> )	0	0	0	10	9	36	9	23	5	92	1099(5)
18-spot ( <i>Myrrha octodecimguttata</i> )	0	0	7	5	1	0	0	0	0	13	244(19)
10-spot ( <i>Adalia decempunctata</i> )	0	0	1	4	0	0	2	1	0	8	1271(2)
2-spot ( <i>Adalia bipunctata</i> )	0	0	2	3	2	0	0	0	0	7	1189(4)
Cream-streaked ( <i>Harmonia quadripunctata</i> )	0	0	2	1	0	0	0	0	0	3	268(18)
Cream-spot ( <i>Calvia quattuordecimguttata</i> )	0	0	0	1	0	0	0	0	1	2	905(6)
Larch ( <i>Aphidecta oblitterata</i> )	0	0	0	1	0	0	0	0	1	2	516(14)
7-spot ( <i>Coccinella septempunctata</i> )	0	0	1	0	0	0	0	0	0	1	1785(1)
14-spot ( <i>Propylea quattuordecimpunctata</i> )	0	0	0	0	0	0	0	1	0	1	1198(3)
Eyed ( <i>Anatis ocellata</i> )	0	0	1	0	0	0	0	0	0	1	479(15)
Adonis’ ( <i>Hippodamia variegata</i> )	0	0	0	0	0	0	0	0	1	1	295(17)
Total species in year	1	1	7	8	4	2	3	4	4	-	-

\*Number of 10km squares with records in Britain and Ireland and the abundance rank for each species, from Roy et al (2011), amongst the 26 macro ladybirds.



Table 2. Ladybird totals in moth trap by month (2003-2011).

Species	April	May	June	July	August	September	October	November	December
Orange	1	0	52	36	11	12	3	0	0
Harlequin	1	2	25	35	15	12	0	1	1
18-spot	1	0	5	7	0	0	0	0	0
10-spot	0	0	4	4	0	0	0	0	0
2-spot	1	1	2	3	0	0	0	0	0
Cream-streaked	0	0	2	1	0	0	0	0	0
Cream-spot	0	0	1	1	0	0	0	0	0
Larch	0	0	1	1	0	0	0	0	0
7-spot	0	0	0	1	0	0	0	0	0
14-spot	0	0	1	0	0	0	0	0	0
Eyed	0	0	1	0	0	0	0	0	0
Adonis'	0	0	0	0	0	0	0	1	0
Total species in month	4	2	10	9	2	2	1	2	1



### Discussion

Nine years of moth trapping in a Southampton garden has produced records of 12 macro ladybird species. Apart from the Orange and Harlequin ladybirds, which are regularly seen, the numbers of other species are low. Brown et al (2006) point out that 'most ladybird species do not tend to be drawn to light, but Harlequin and Orange ladybird .... are two exceptions'. However, amongst the less frequent species, the proportion of the more difficult to observe ladybirds, particularly the specialists of Scots pine and related trees, is higher than might be expected. In agreement with this Hawkins (2000) points out that several conifer specialists, including the 18-spot ladybird, were recorded at MV moth traps during the survey of the ladybirds of Surrey. Specifically, the 18-spot ladybird was noted in moth traps as 'appearing on three occasions at South Croydon although 70 metres from the nearest pine'. In contrast, most species which are readily seen by day, with the exception of the Harlequin ladybird, tend to be relatively under-represented in light trap catches. The Adonis' ladybird is a potential migrant from the continent, which is also the likely source of the first arrival of Harlequin ladybirds in the Southampton area and other south coast locations. Particularly mild and humid nights between the middle of June and the middle of July offer the best opportunity for observing a diversity of ladybird species in a moth trap. As several species are very small (such as 18-spot and Adonis') they are easily overlooked. However, recording the species found might contribute significant new records for a particular area, especially given that many of the most common ladybirds appear to rarely enter moth traps.

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